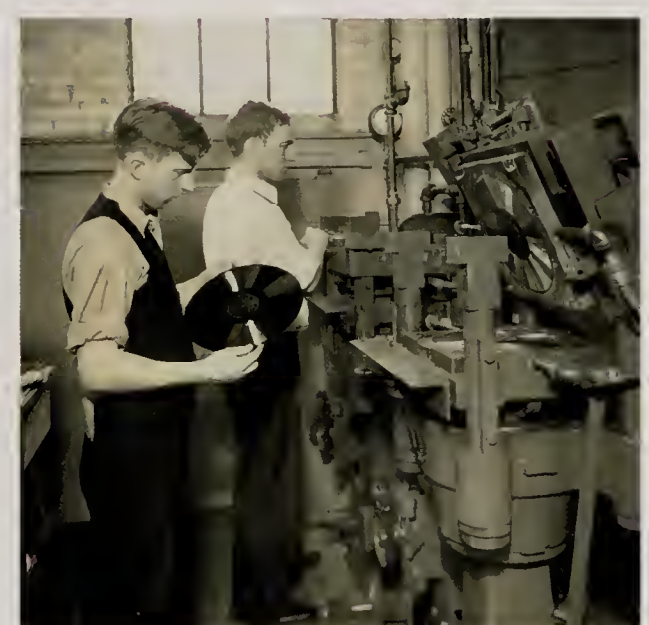

HISTORY IN THE MAKING:
THE STORY OF THE AMERICAN PRINTING HOUSE FOR THE BLIND
1858–2008

"I do not think I shall ever forget my first attempt to read. I thought it impossible I ever should learn, but my motto was, 'Where there's a will, there's a way,'" wrote Mary Day in Baltimore in 1859.

Mary Day was blind. For centuries, reading and blindness had seemed an impossible combination. Even at her school, the Maryland School for the Blind, there were few books embossed in the newly developed raised letters that could be read by touch.

A small organization, founded in Louisville, Kentucky, was about to change that. Before the Civil War, before automobiles, telephones, the Louisville Slugger baseball bat, or the Kentucky Derby, there was the American Printing House for the Blind (APH). Founded in 1858, APH became the world's largest nonprofit organization creating educational, workplace, and independent living products and services for people who are visually impaired.

Author Carol Tobe places the birth, growth, and development of this unique Louisville manufacturer into the context of changing attitudes about people with disabilities. *History in the Making* is filled with stories of people who made a difference: the blind promoter from Mississippi, civic leaders who guided the fledgling organization, pioneer educators and students who struggled to develop standardized methods of reading and writing, and managers and workers who invented innovative methods to make the written word available to those who could not see.

thode d'abréviations qui
diminuera de beaucoup la
grosseur de nos Volumes.
Nous esperons en donner
les premiers essais, dans
l'ouvrage [illegible]


19.


LEWIS
LOUISTEND


INSTITUTION
FOR THE
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PATENTED
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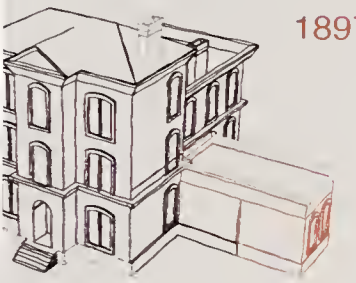

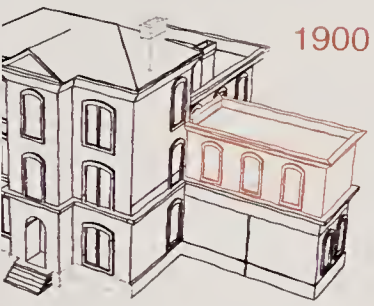

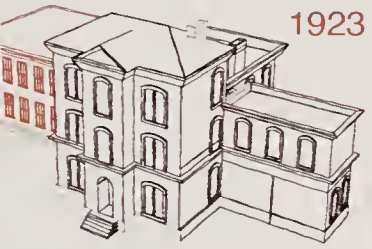

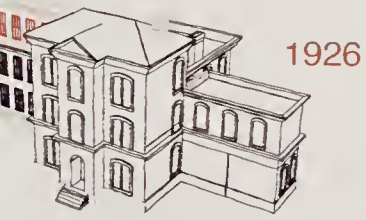

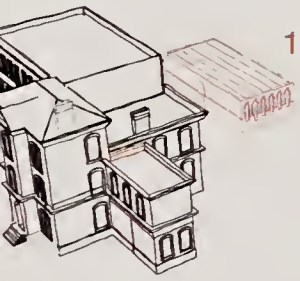

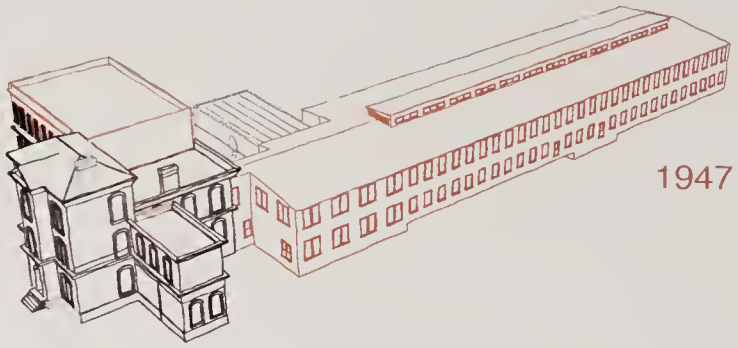

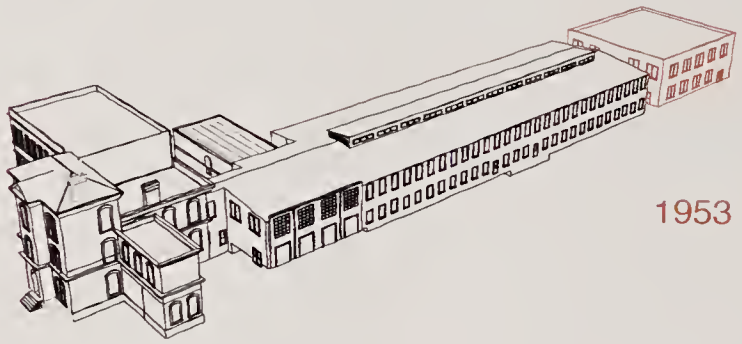

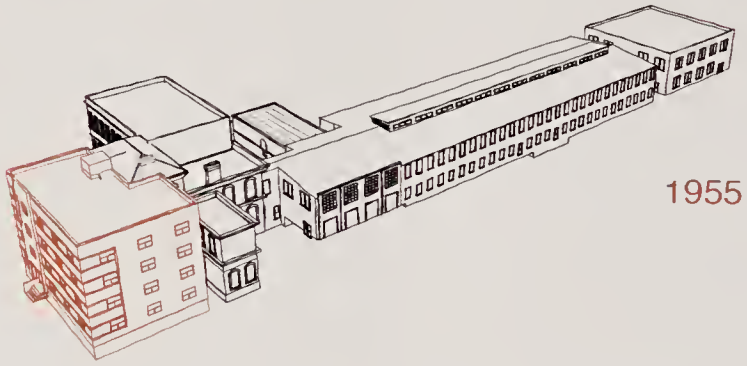

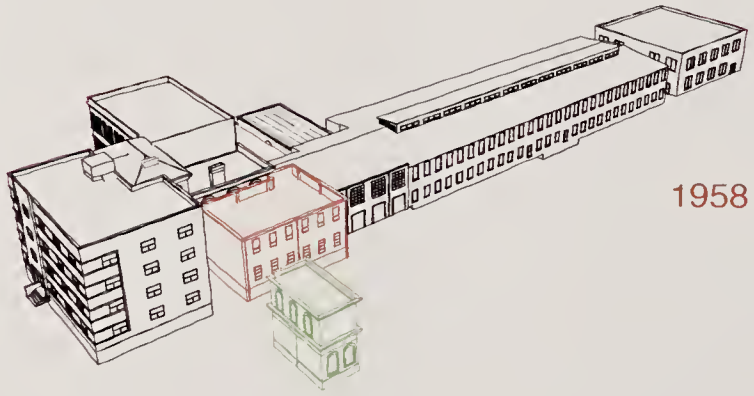

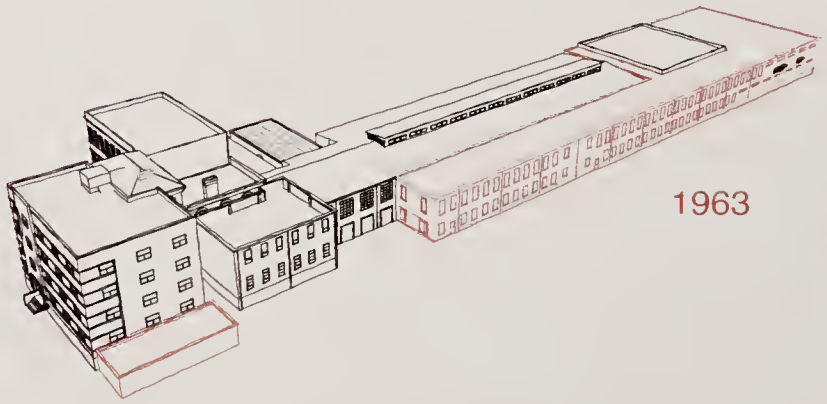

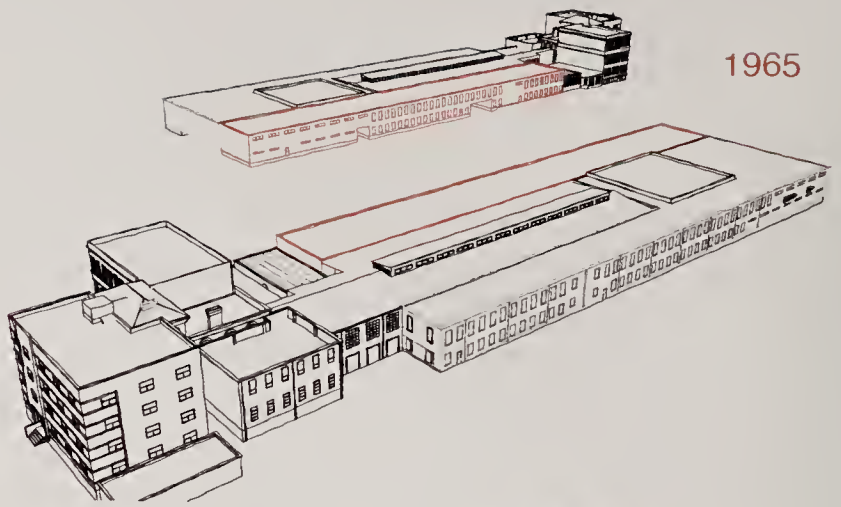

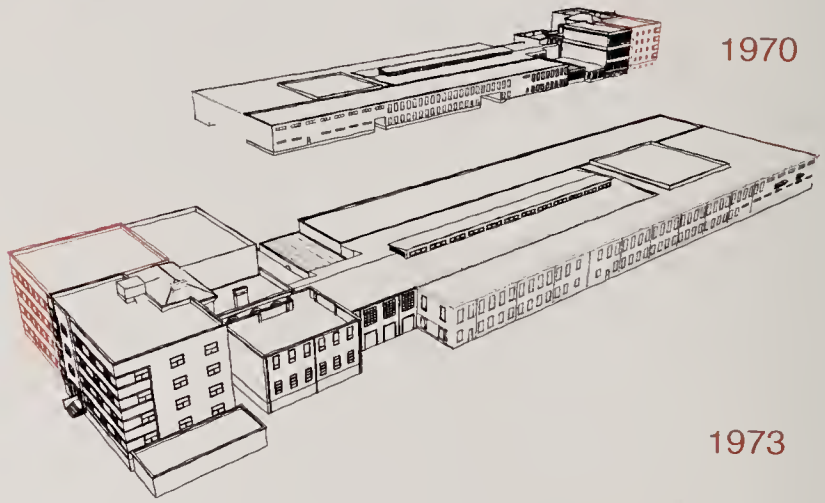

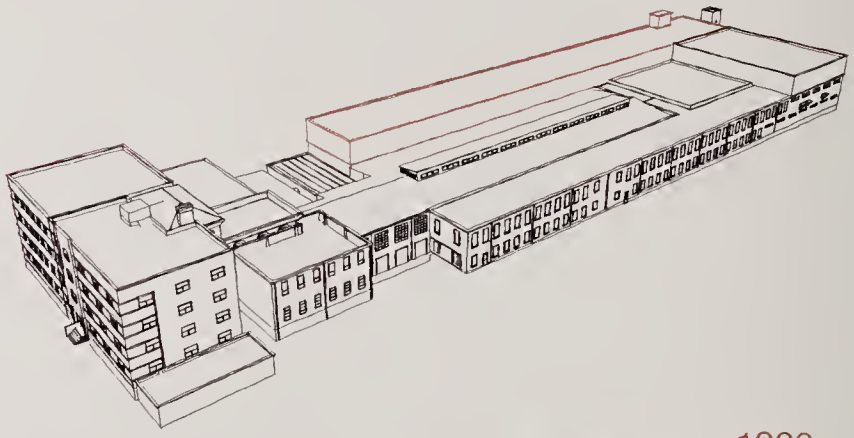

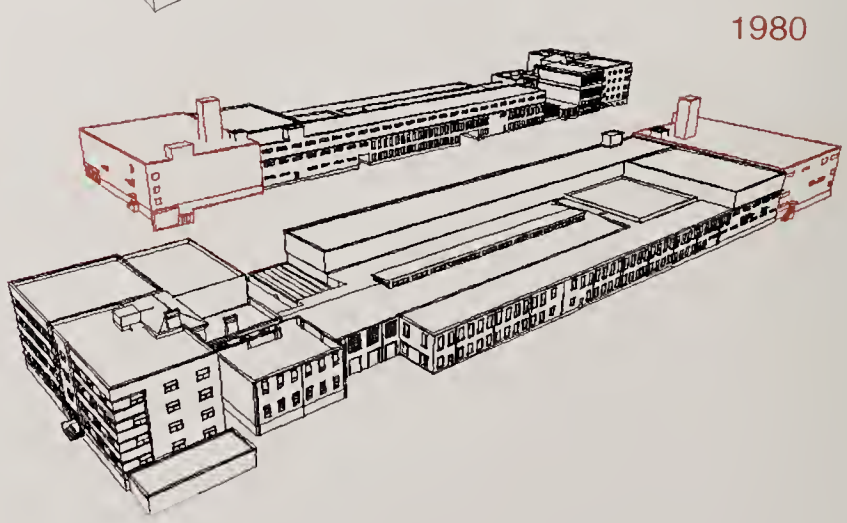

Development of the physical plant at the American Printing House for the Blind, 1883-2008 (Charlie Wallace)

HISTORY IN THE MAKING:
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1858–2008

By Carol Brenner Tobe

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Contents

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I am especially grateful to the staff of the APH Museum—Micheal Hudson, for his skillful and sensitive editing, and Anne Rich for the research assistance which she gave with extraordinary patience and good cheer. APH leaders Bob Brasher, Mary Nelle McLennan, Gary Mudd, and Tuck Tinsley lent their perspectives of APH and the wider community of the blindness field. Their thoughtful comments and criticism were invaluable.

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The design and construction of the book itself posed some interesting issues that took no few meetings to figure out. I am especially grateful to Steve Paris and Ron Gadson for their efforts to produce the tactile inserts from stereotype plates prepared more than a century ago. Kathy Lewis, Pat Packer, and their staff helped to transcribe the title plates used on the premium edition and to manufacture them on the APH Plate Embossing Device. Steve Mullins and the fantastic staff in the APH studio recorded and produced the Talking Book edition. And the company was especially lucky to obtain the services of designer extraordinary Julius Friedman. Bill Butler of Butler Books and John Clark made many important contributions as well.

It is impossible to name the many management and staff members of the American Printing House for the Blind who have given time, shared stories, saved artifacts, donated photographs, and kept the interest in company history alive, but I appreciate them all. I especially want to thank the APH people who have, through the years, shared their enthusiasm for and knowledge of APH history—Patricia Campbell, Jack Decker, Will Evans, Ron Gadson, Jim Hill, Mary Nelle McLennan, Gary Mudd, Carl Powell, John Siems, Tuck Tinsley, and John Zinninger.

Carol Brenner Tobe

March 17, 2008

Chapter 1: An Introduction

Books for the blind are necessarily limited in number, and somewhat expensive. Whenever any volumes arrive, the first eager inquiry of a dozen voices is, "are they in our print?"

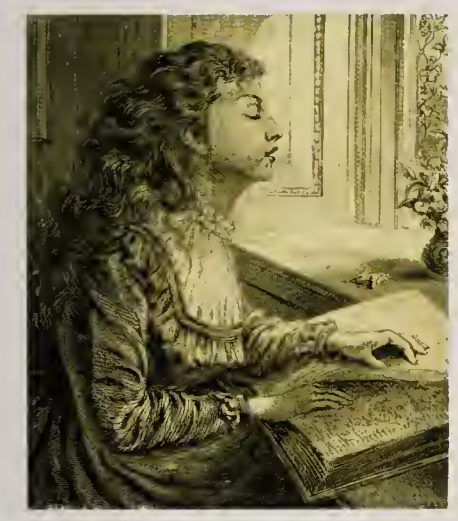
Ohio Institution for the Instruction of the Blind, 1840.[1]

The American Printing House for the Blind (APH or the Printing House) was established in 1858 to answer voices crying out for books in "our print." Those voices wanted books they could read by themselves. Print books–read aloud by teachers or family–were important, but reading books in "our print" meant independence. Twenty-one schools for the blind had been established by 1858, yet there were few tactile books to satisfy the students who filled them.

In Mississippi, an unlikely hero had a dream—a printing house devoted solely to books that he and other blind people could read. Dempsey Sherrod was blind and poor, but well educated. He convinced legislators in Mississippi in 1857 and Kentucky in 1858 to charter an institution he named the American Printing House for the Blind, located in Louisville, Kentucky.

The cause was soon taken up by many. With the help of educators, community leaders, politicians, and philanthropists, the Printing House introduced its first tactile books. APH founders had to satisfy opinionated educators who favored one tactile code or alphabet over another. They had to respond to expanded student needs and adapt to new technology—adding large print books, talking books and, finally, digital books. As educators identified students' needs for new educational products, APH conducted research, acquired machinery and materials, and produced an array of tactile products.

The American Printing House for the Blind endured and prospered in its first 150 years, forging a close relationship with educators in the field of vision and their blind students. The Printing House came a long way from its humble beginnings, but not so far as blind and visually impaired people themselves. They faced overwhelming superstition and prejudice. The first schools for the blind struggled to dispel the general belief that blind children were incapable of learning.



We used to read the Bible, "Pilgrim's Progress," "The Ancient Mariner" and other literary classics in the raised letters; but our daily lessons were received directly from our teachers. Selections would be read to us two or three times, and then we were all expected to be able to answer minute questions about them in the language of the original. The following morning we were required to tell the story again . . . in our own words. By this means our memory and our power of thinking were both cultivated.
Fanny Crosby[2]

Changing Attitudes: Public Understanding of Blindness

Ancient attitudes held that blindness was a punishment for the person's sins. People in previous centuries saw the blind person as a beggar, demonic, and not to be trusted. Later, blind people were viewed as objects of pity, with hospitals established to care for them. In the mid-eighteenth century, these attitudes began to change.

In his influential 1749 *Lettre sur les aveugles*, French philosopher Denis Diderot maintained that blind people were different yet not inferior to sighted people. The first European schools for people with vision loss, founded later in the century, suggested wonderful possibilities. As the schools developed, however, they were faced with a philosophical predicament. Mary Klages wrote,

Art and literature often depicted people with visual impairments as helpless or useless, or both

"They found themselves caught between a rhetoric of charity and compassion that invoked sentimental sympathy and a rhetoric of independence that assured the public that the blind were not going to remain the recipients of alms."[3]

Demonstrations were regularly used to prove that blind students could become contributing members of society. The schools for the blind had frequent visiting days, open to the public, for students to demonstrate their skills. Visitors would ask whether students closed their eyes when they slept or how they found their mouths when they ate. Mary L. Day, in her 1859 memoir, described the visiting public's interaction with the students at the Maryland School for the Blind. "Remarks made by strangers would sometime greatly amuse us," she said. "They appeared to regard us as a race distinct from themselves."

In contrast to visiting days, public demonstrations provided a more controlled environment to satisfy society's curiosity about blind students. Instruction emphasized the practical—a trained blind child will be an independent adult—while efforts to raise funds played on public sympathy with sweet songs and charming children. When Trustee William Bullock sought state funding for the Kentucky Institution for the Education of the Blind in 1844, he took thirteen students, the school's director, and teachers to give an exhibition before the state legislature. The students took examples of their handiwork—mattresses, brushes, and baskets—and demonstrated their mastery of reading, arithmetic, and geography.

William F. Bullock (Filson Historical Society)

There were also musical performances. A newspaper reported, "One little girl in particular, seemed to have the voice of an angel, and poured forth such thrilling symphonics as roused to painful intensity the heart-strings of the hearers."[5] The Frankfort paper announced that Bullock "demonstrated most conclusively, that it was the duty of the State to take these, her unfortunate orphans, under her special protection, and while the light of the external world was shut out from their eyes, to pour the rays of knowledge and happiness into their minds and hearts."[6]

Unknown girl
(photograph by Allen, Seneca Falls, New York)

American schools for the blind were based on European models, particularly the National Institute of Blind Youth, established in France in 1786. The school's founder, Valentin Haüy, was inspired by Diderot's writings on the capabilities of blind people. Coming upon a street performance that mocked blind beggars, Haüy resolved to help blind people gain the dignity and respect they deserved. The answer, he concluded, was education.

I do not think I shall ever forget my first attempt to read. I thought it impossible I ever should learn, but my motto was, "Where there's a will, there's a way;" and I determined if application would enable me to surmount the difficulty it should be overcome. . . . I resolved to make every possible effort, hoping in the end to acquire knowledge which I might devote to practical purposes, as well as enjoy, as the rich reward for what . . . the efforts have cost me.

Mary L. Day, a student at the Maryland Institution for the Blind, 1859[4]

Tactile Page. Alphabet card in Boston Line Letter, prepared in raised letters at the American Printing House for the Blind in 2008 on a clamshell press using tin-lined plates originally created around 1890

To fulfill his pledge, Haüy developed a method to print books in relief. The first such book was *Essai sur l'Education des Aveugles* (An Essay on the Education of Blind Children), printed in 1786. In it, he explained his mission, "to teach the blind reading, by the assistance of books, where the letters are rendered palpable, by their elevation above the surface of the paper, and by means of this reading, to instruct them in arithmetic, the languages, history, geography, mathematics, music, etc."

Haüy's raised letters inspired the first embossed printing in this country. In 1834, the Pennsylvania Institution for the Education of the Blind produced the first American book embossed for blind readers, *The Gospel According to Saint Mark.*[7] This edition was embossed in rounded roman letters similar to Haüy's alphabet. Later that year, the New England Asylum for the Blind in Boston—later known as the Perkins School–embossed *The Acts of the Apostles.* It was produced in an alphabet of angled roman letters, invented by the school's director, Samuel Gridley Howe, who claimed that this alphabet was easier to read than other raised letter forms.

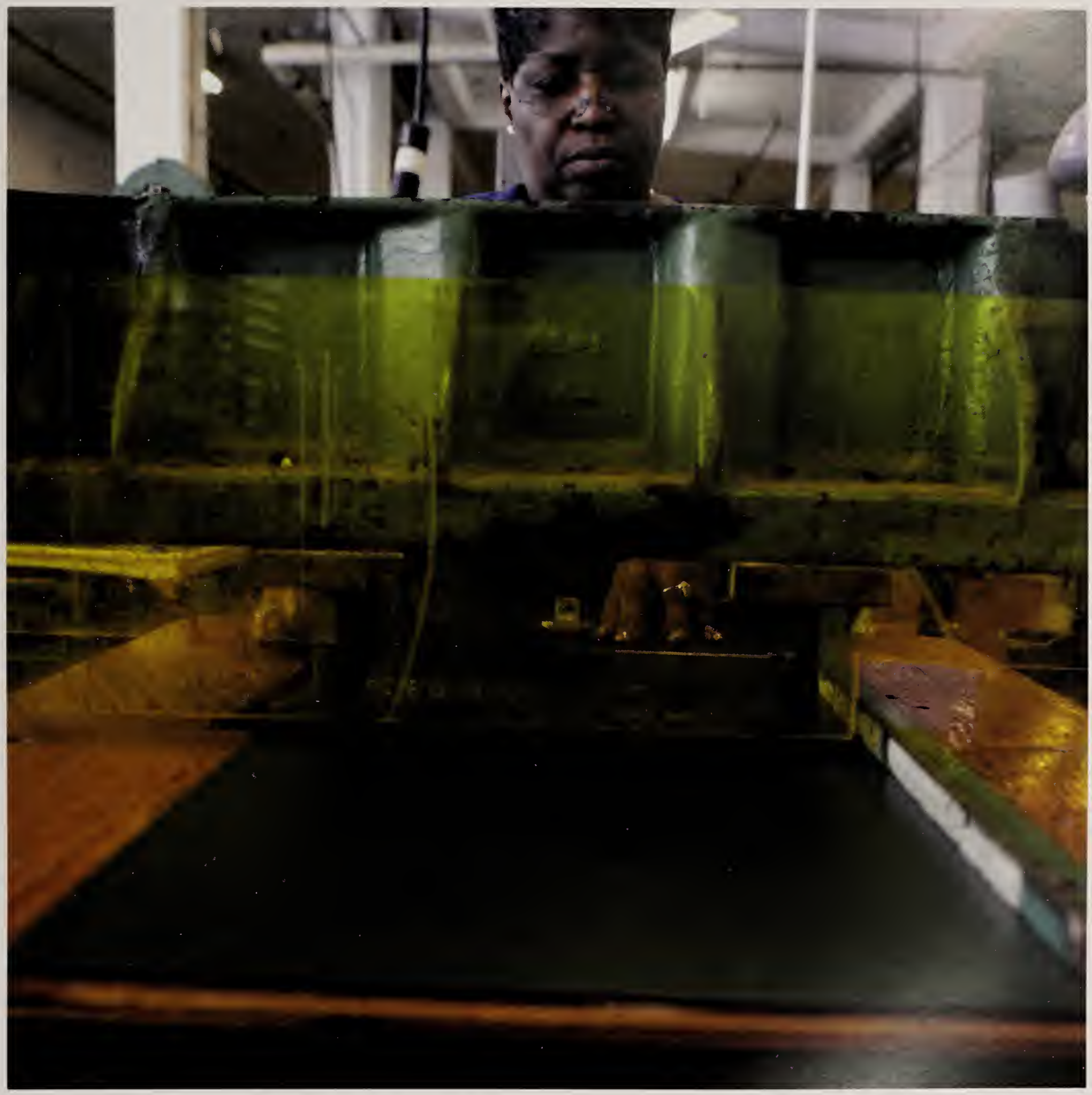
In general, however, book production at the schools was severely limited. The Kentucky Institution for the Education of the Blind opened in 1842. Other schools that opened in the 1840s and 1850s had small print shops, but the Kentucky school was not among them. With few exceptions, the schools produced materials strictly for their own students. Demand for tactile school materials soon far exceeded the production capacity of Perkins and the other school print shops.

A United Effort: The Founding of the American Printing House for the Blind

> "Managers of the Blind Schools have, for many years, constantly recommended a united effort to sustain one printing press for the Blind: and yet it is believed there is not a single press in any part of the world now actively engaged in printing books."
>
> *American Printing House for the Blind, Circular, 1860*[8]

James Morrison Heady (Pat Heady)

There was no government support for tactile books in the mid-nineteenth century. Funds were raised from private individuals or benevolent societies. Morrison Heady of Kentucky was a blind man who drummed up enough support to publish an edition of *Paradise Lost* at Perkins in 1856. Leaders of the twenty-one schools for the blind had long proposed a national production facility for embossed books, but Dempsey Sherrod, a blind man from Mississippi, set the project in motion. A fascinating personality, Sherrod was born in Georgia about 1832.[9] A school report stated that scarlet fever caused his blindness. He attended the Mississippi School for the Blind.[10] In 1856, Sherrod began to travel to identify prospective students for the school, but soon focused his efforts on raising funds to print books in raised letters.[11]



The Mississippi and Kentucky Charters

Sherrod's letters and reports do not reveal when he decided to promote establishing a national publishing house. His 1860 report suggests that he had already been raising money in Mississippi to emboss textbooks. Once Sherrod decided to put his efforts into establishing a printing house for the blind, he placed a proposal before the Mississippi legislature. On November 14, 1857, Governor John McRae signed The Charter of Incorporation of a Board of Trustees to aid in Establishing a Publishing House to Print Books in Raised Letters, for the Benefit of the Blind.

The first line of the Mississippi Charter states "Whereas, It is contemplated to establish at Louisville, Kentucky a publishing house to print books in raised letters . . . upon a permanent basis, and with sufficient capital, contributions from various States . . . will be necessary." As soon as the Kentucky legislature chartered the organization and raised $25,000, funds raised in Mississippi would be transferred to Louisville.[12]

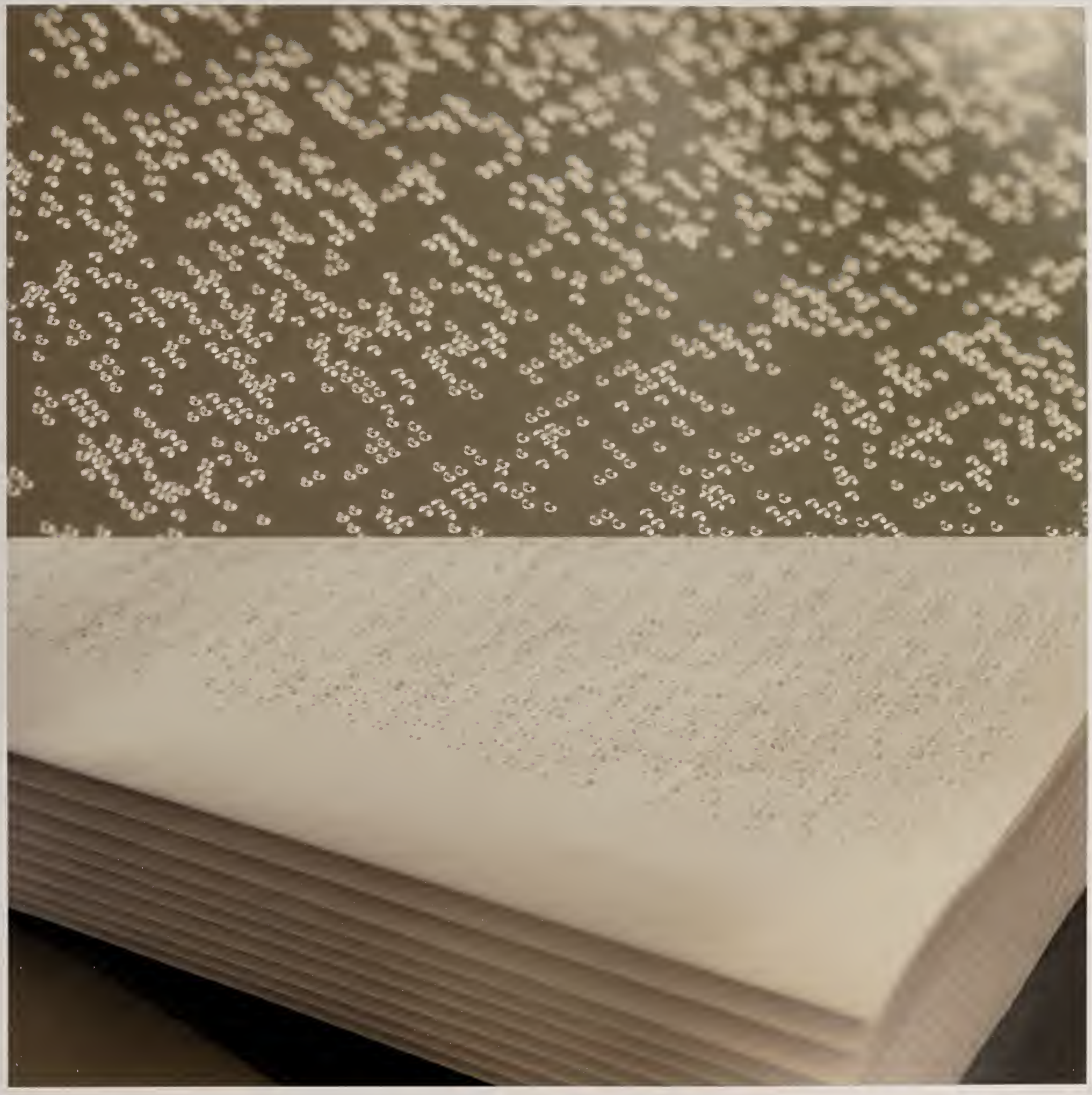
Sherrod spent November 1857 in Louisville to pave the way for a Kentucky charter of incorporation. On January 23, 1858, an act was adopted acknowledging that the state of Mississippi had appropriated $2,000 to establish a national institution, the American Printing House for the Blind. The organization's mission would be to print and circulate books in raised letters for the blind.

The charter named seven trustees and charged them to appoint a superintendent. A board of visitors, made up of presidents of the state auxiliary boards and the heads of the schools for the blind, would oversee operations. Embossed books, which were selected from a list provided by superintendents of schools for the blind, would be sold at cost to schools in contributing states. The company would be located in or in the vicinity of Louisville, Kentucky.

Why Louisville?

> Louisville was wisely selected by friends of the blind as the city where this institution should be established. Twenty-three out of the thirty institutions for the blind are in the South and the West. Railroad and water connections with those sections are direct and numerous, from no other point could the books and apparatus be so quickly and cheaply distributed.
>
> *Congressman Albert W. Willis, January 17, 1879*[13]

Dempsey Sherrod said simply, "We had selected Louisville, Ky., as the most eligible location for an Institution of this kind."[14] Louisville had developed a lively culture in the 1850s that would set the tone for revival and growth after the tragic interruption of the Civil War. It provided the Printing House with the culture, the resources, and the transportation it needed. Even more important to the new



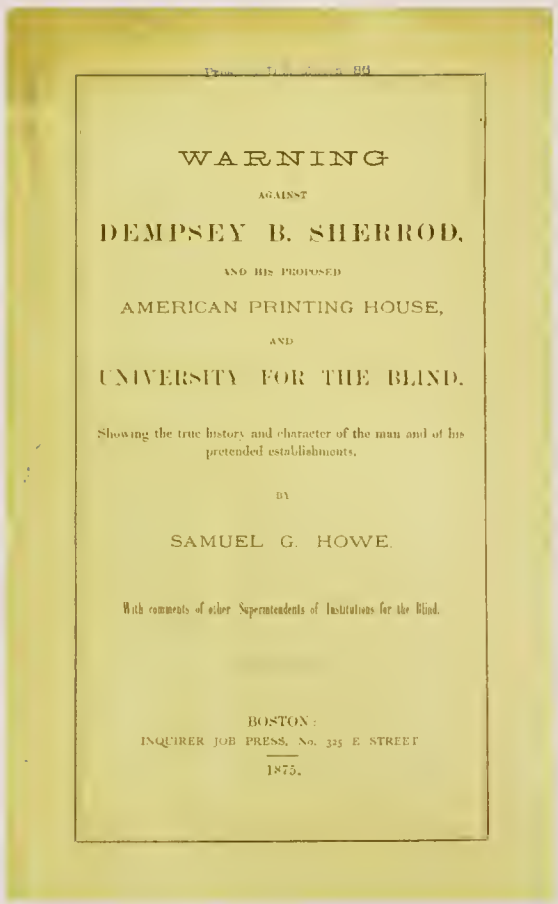
company, however, were the visionary and energetic community leaders who valued education, practiced philanthropy, and promoted collective responsibility for the welfare of the community.

Louisville was a river town where business was principally measured by its boat traffic, and the decade from 1850 to 1860 was a time of transition. "By the middle 1850s, when Louisville was enlarging its wharf, railroads built and projected already showed the shape of the future, a future in which the focus of activity would shift from the wharf to the railroad station."[15]

Louisville's excellent transportation facilities provided fertile ground for industrial growth. Heavy industries, steamboat building, meat packing, and printing and publishing houses were among the city's manufacturers. A paper mill had opened a few years earlier, and John P. Morton, founder of the city's most prominent printing establishment, was one of the early APH board members.

The derby city's main street in the mid-1850s was one of the most important wholesale centers of the world, and retail establishments crowded Market Street. Broadway, the first site of the Kentucky School for the Blind, was an elegant, tree-shaded residential street. Louisville established its common school system in 1829 and the number of grammar and primary schools grew steadily. By 1877, Louisville boasted a university, a medical college, and eighty-four public and private schools.[16]

There was company folklore that attributed a fine print shop at the Kentucky Institution for the Education of the Blind as the reason for locating APH in Louisville. No documentary evidence exists, however, to suggest there was a press at the school until APH was founded and the school offered a room in its basement for the print shop. Perhaps Sherrod, in his travels, was simply impressed with Louisville and its amenities, or took advantage of the political clout of prominent men there. Whether by choice or by chance, the Louisville site provided the American Printing House for the Blind with an ideal nineteenth-century transportation hub. It was a location that would become even more central as the population moved westward.



WARNING

AGAINST

DEMPSEY B. SHERROD,

AND HIS PROPOSED

AMERICAN PRINTING HOUSE,

AND

UNIVERSITY FOR THE BLIND.

Showing the true history and character of the man and of his pretended establishments.

BY

SAMUEL G. HOWE.

With comments of other Superintendents of Institutions for the Blind.

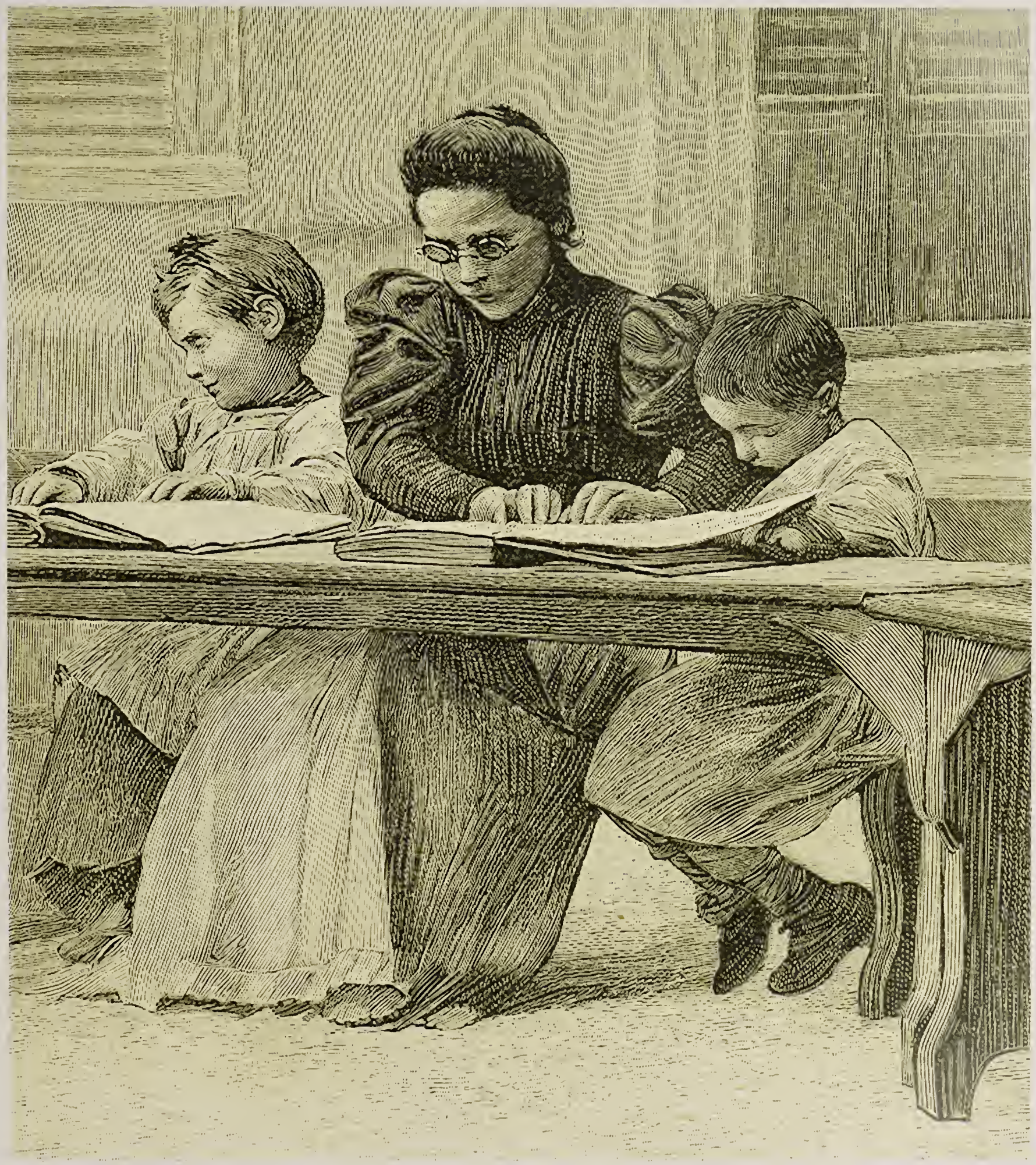
BOSTON:
INQUIRER JOB PRESS, No. 325 E STREET
1875.

Dempsey Sherrod's later lobbying efforts were met with considerable resistance (Princeton University Library)

Another American Printing House for the Blind?

> Many miles have been traveled, and much labor performed, but a generous public have nobly responded to the appeals made—and what seemed to many a fruitless undertaking, has proved a complete and gratifying success.
>
> *Dempsey Sherrod, 1860*[17]

After the Kentucky Charter was adopted, Sherrod continued his travels, organizing auxiliary boards in nearby states and collecting pledges and donations. His 1860 report declared that pledges for the $25,000 required by the Mississippi charter were in hand.[18] By 1865, the Louisville trustees were ready to begin printing, but had not received additional reports from their agent.[19] Sherrod, it seemed, was putting his efforts into another project.

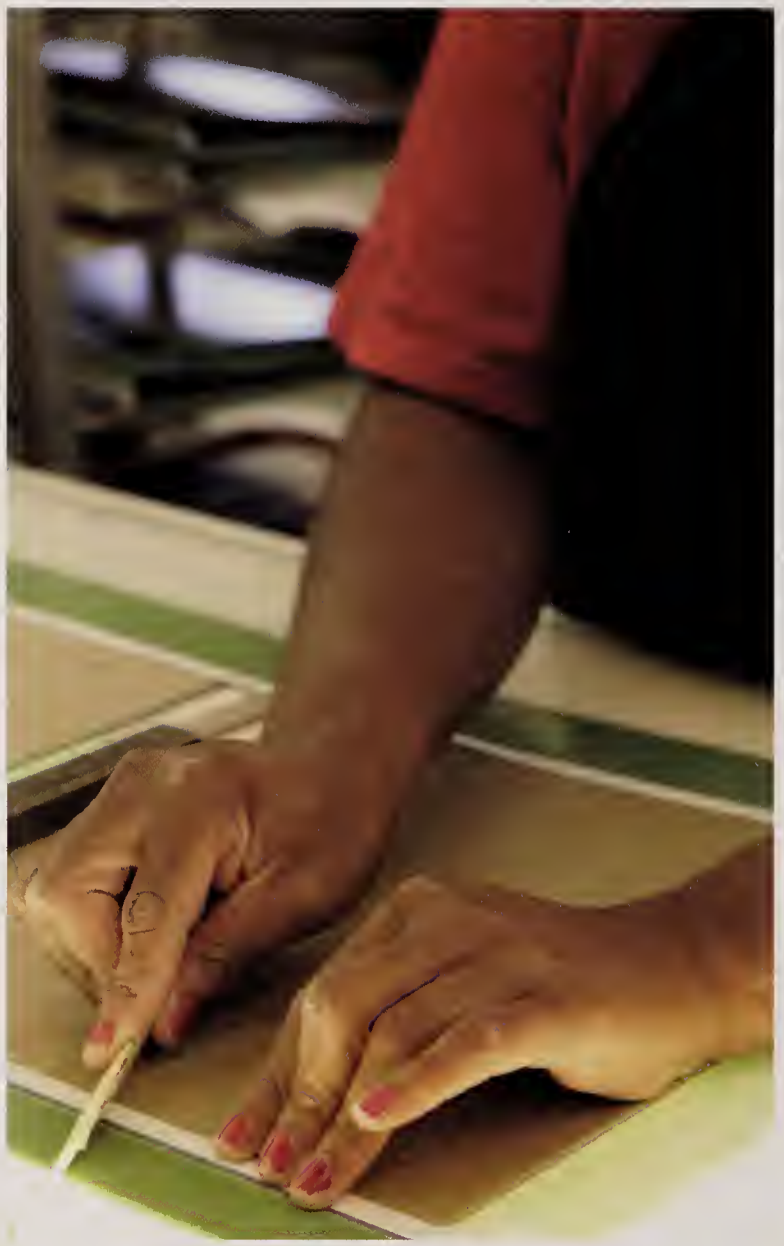


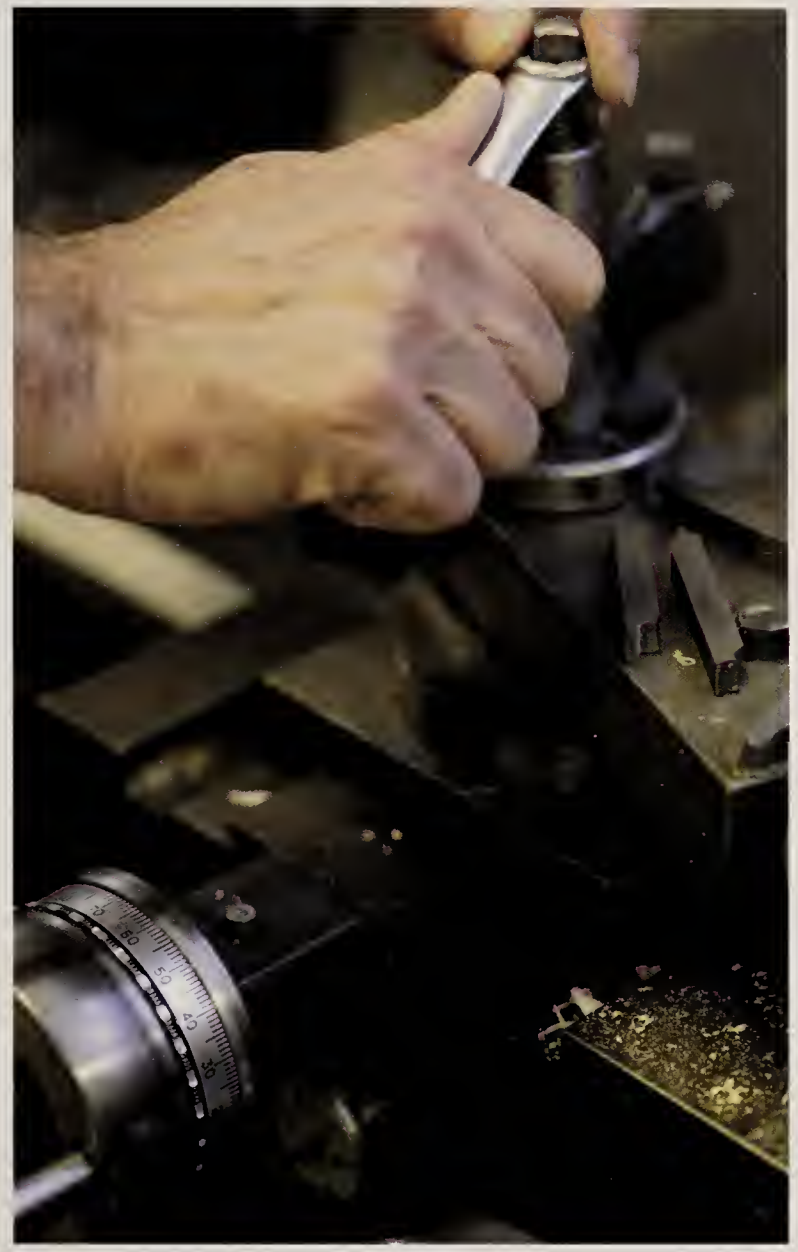
Students at a reading lesson (*L'Illustration*, *September 18, 1897*)

Sometime after the Civil War, Sherrod began making proposals to Congress asking for incorporation of a printing house and university for the blind to be located in the District of Columbia. The new concern was to be called the American Printing House for the Blind. Sherrod failed to mention that an organization with the same name already existed in Louisville.

Beginning in 1868, six bills were proposed. All ended in failure.[20] Sherrod persuaded legislators to introduce his bills and garnered endorsements from government officials and leaders in the blindness field. The lone objection, presented to both House and Senate in February 1871, came from the trustees of the Printing House in Louisville. The APH trustees complained about Sherrod's failure to provide financial accounts, and published a circular to the "Friends of the Blind in the United States" denouncing Sherrod's attempt to set up a rival institution in Washington with the same name.

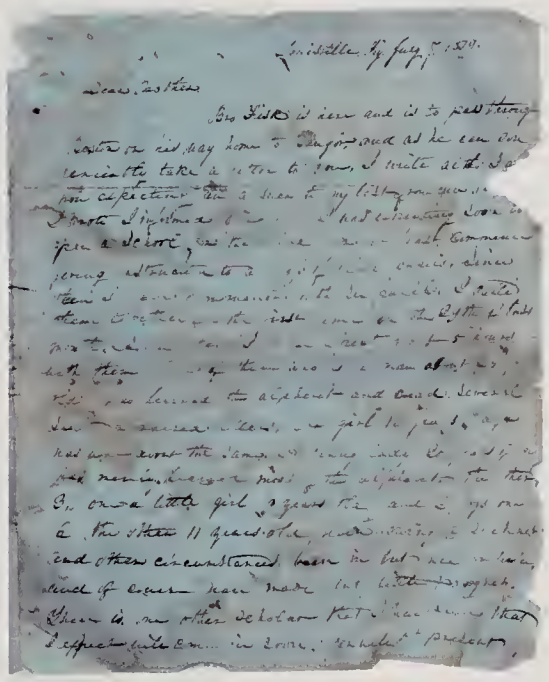
Samuel Howe published a circular in 1875 in which he described Sherrod's proposal as a "'Humbugging Scheme,' which is . . . doing great harm to the cause of the Education of the Blind."[21] For his part, Sherrod published his own pamphlet in 1878 making the case for national support for tactile literature and tangible apparatus.[22] He omitted any discussion of the Printing House in Louisville, which he had been so instrumental in founding twenty years earlier.






Cassiopeia
Camelopardalis

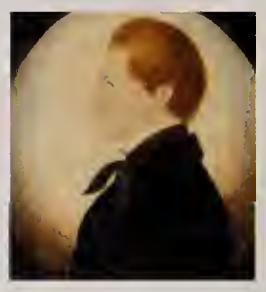
Chapter 2: Leaders: The APH Superintendents 1858–2008



In an 1879 letter providing biographical information to Bowdoin College, Bryce Patten wrote about the establishment of APH and wrote, "I was elected one of its Trustees and its managing director and secretary, and I held those offices until I resigned the same in 1871. As Director of the American Printing House for the Blind I edited and printed in raised letters Fables for children, some of Shakespeare's works, the Aeneid of Virgil in Latin and other books."[27]

Bryce Patten (1814–1891)

Secretary and Superintendent APH 1859–1871



Bryce Patten as a young man (Laurie Phillips)

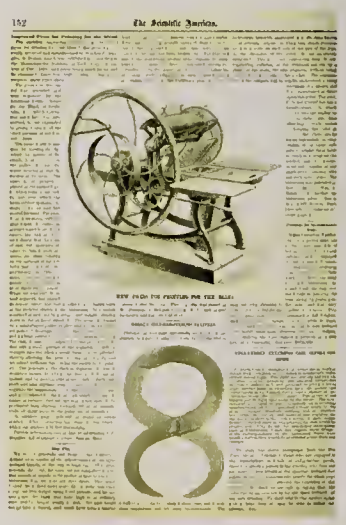
> This Institution commenced its existence in the darkest days of our country's history. Many formidable obstacles . . . for years opposed its progress and threatened to destroy it.
>
> *Final report of Bryce M. Patten, 1871*[23]

Bryce McLellan Patten was the founding superintendent of both the Kentucky Institution for the Education of the Blind and the American Printing House.[24] Described as "able and indefatigable," he was an able teacher and administrator who served the school for nearly thirty years and APH for thirteen. He departed both institutions in 1871.

Patten was born in Topsham, Maine, on March 1, 1814. Three of his siblings suffered "from cataracts," explaining his early interest in education for blind children. After graduating from Bowdoin College in 1837, he taught at the Covington (Kentucky) Female Seminary.[25] In 1839, Patten moved to Louisville and founded a school for boys, the Louisville Collegiate Institute. He also formed a class of six blind students, employing his sister and brother as assistants. His brother, Otis, was visually impaired, and taught both the sighted students at the boys' school and the blind students.[26] When the Kentucky Institution for the Education of the Blind was founded in 1842, Patten was one of the original trustees. In less than a year, he closed the Collegiate Institute to devote all his energies to teaching blind children.

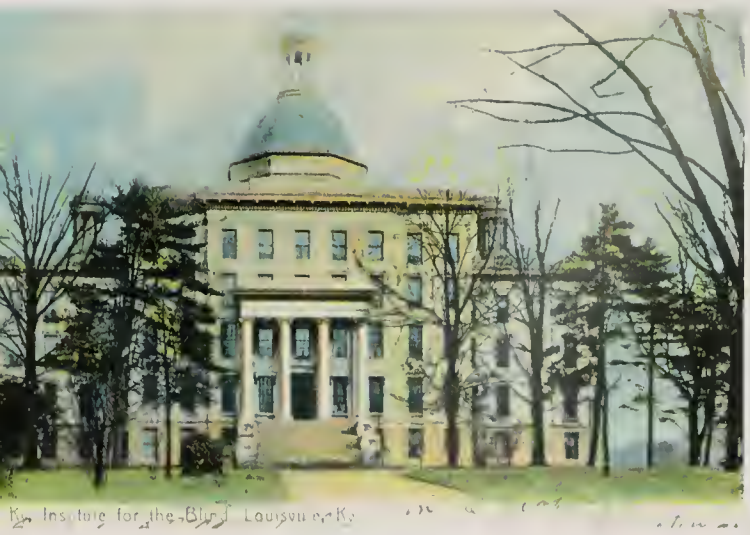
Patten's contributions to the Printing House were significant. He ordered the company's first printing press in 1860 with funding received from private citizens in Mississippi and Kentucky. The press was installed in a basement room of the Kentucky Institution for the Education of the Blind and, later, a bindery was added. Patten resolved mechanical problems himself, but then faced the dilemma of what tactile alphabet to use. "Various alphabets," he noted, "had earnest advocates, some of whom refused to patronize any printing institution that did not adopt their own favorite alphabet." With this in mind, he proceeded "slowly and cautiously with the work of printing."

An allocation from the state of Kentucky, along with donations from individuals in Ohio, Indiana, Kentucky, and Illinois, enabled book production to begin in 1866 with *Fables and Stories for Children.*[28] Before he resigned, Patten produced *Fables by John Gay* (1869), Shakespeare's *Midsummer Night's Dream* (1870), and eight other publications. The books received the endorsement of the American Association of Instructors of the Blind (AAIB) at the organization's 1871 convention.



Scientific American announced details of the company's first printing press in March 1864

The collating turntable at APH, circa 1940



Bryce Patten headed the Kentucky Institution for the Education of the Blind when it built this grand structure on Frankfort Avenue in 1855

One of Patten's most serious challenges was finance. Funding for the Printing House came from individual donations solicited by traveling agents and state auxiliary boards set up to raise funds for APH. The early annual reports published subscription lists from the states with donor names and the amounts of their donations and pledges—many of which went unpaid. The state governments of Kentucky, Mississippi, and Louisiana also had appropriated funds. Because of the Civil War, little of that funding made its way to Louisville. In 1881, the Louisville Board of Trustees sued to recover funds collected by the Louisiana Board of Trustees in an appeal to the U. S. Supreme Court. The appeal, however, was unsuccessful.

Patten was active in the civic, charitable, and religious life of Louisville. He was one of the 1844 incorporators of Louisville's first street railway project, the Louisville and Portland Railroad. In 1854, Patten was a member of the board of managers of the House of Refuge and served as President of the Young Men's Tract Society of Louisville in 1848. The Tract Society was a national organization that distributed religious tracts. It was noted for its modern printing techniques, probably influencing Patten's early efforts at APH.[29] He also represented Kentucky at Abraham Lincoln's funeral in 1865.

Married in 1851, Patten brought his wife, Mary Earle, from Maine to Louisville and his home at the Institution for the Blind. Mary died five years later. In 1870, he married Josephine Burns, a teacher of gymnastics at the school. Patten resigned from the Printing House in November 1871. He had left the Kentucky School for the Blind a few months earlier. Patten explained that he had "entered into engagements which will frequently call me from Louisville during the coming year." Accepting his resignation, the APH board thanked him "for the skill, judgment, and efficiency with which he has discharged his duties."[30]

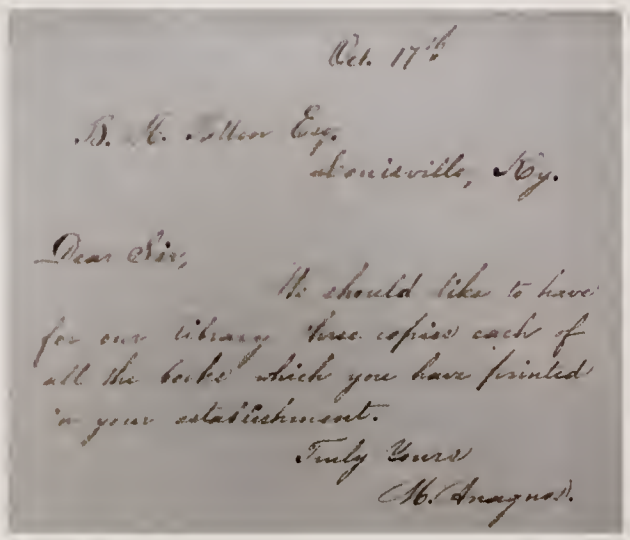
Benjamin Bussey Huntoon (1836-1919)

Secretary and Superintendent APH 1871–1919

B.B. Huntoon

> No name is better known and loved among all educators and workers for the blind that that of B.B. Huntoon. His name and fame are world-wide and the influence of his scholarly mind and inventive genius on the education of the blind will never cease.
>
> *Andrew Cowan, 1919*[31]

B.B. Huntoon (1836–1919) was an established Louisville educator when he replaced Bryce Patten in 1871. At the time, however, he had no experience in educating blind children. He immersed himself in the work, and mastered both the methods of teaching blind children and the mechanics of running a print shop. Huntoon soon became a national leader in the American Association of Instructors of the Blind.



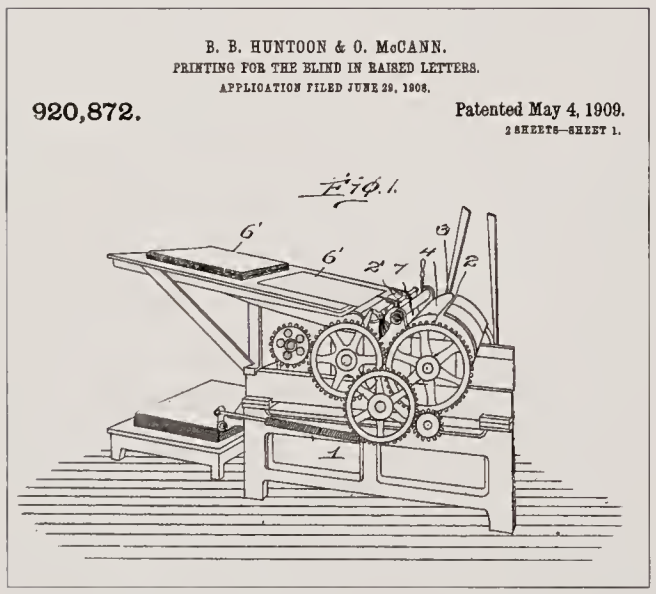
Oct. 17th

B. B. Huntoon Esq.
Louisville, Ky.

Dear Sir,
We should like to have for our library three copies each of all the books which you have printed in your establishment.
Truly Yours
M. Anagnos.

Orders like this one from the Perkins School began arriving as APH began production

Sarah J. Huntoon (1836–1919) worked beside her husband as matron at the Kentucky School for the Blind. In a 1913 tribute to Mr. and Mrs. Huntoon, APH Superintendent Susan Merwin wrote, "Personally, Mr. and Mrs. Huntoon are the most charming and delightful people. . . . Their love of all that is best in literature, art and music causes them to live in an atmosphere of culture and refinement which one instinctively feels when with them."[32]



(U.S. Patent & Trademark Office)

Huntoon was a New Englander, born January 30, 1836, in Milton, Massachusetts. He studied at Harvard, graduating with a Masters in Arts in 1859. After moving to Kentucky, he worked as a private tutor near Versailles. In 1857, he moved to Louisville and established a school for boys where he taught until he took over the Kentucky School for the Blind and the Printing House.

In 1860, he married Sarah Josephine Huntoon, a distant cousin, in Hanover, New Hampshire. Their daughter Mary Josephine was born the next year, and the family lived in Louisville at the school.[33] Huntoon's community interests were many and varied. He was an examiner of public school teachers, literary editor of *The Courier-Journal*, and an active member of the Harvard Club and the Filson Club. During the Civil War, he was a member of the Home Guards. In a eulogy in *The Courier-Journal*, the newspaper's editor Henry Watterson praised Huntoon as "widely read, justly minded and worldly wise—a gentleman and a scholar."

> In his long service of almost a half century in the Printing House, he, in a remarkable way, developed methods and apparatus; devised processes of making maps and books; invented presses and machines; and secured appropriations which cheapened the cost of books and tangible apparatus which had before been almost unobtainable. The Printing House as it stands today is a monument to the fertile brain and indefatigable labor of this gifted man.
>
> *George S. Wilson, 1927*[34]

When Huntoon took over the Printing House, embossed books were produced on a hand press using movable type. Determined to make the operation modern and efficient, he arranged the donation of a steam engine from the manufacturer, the Colt's Arms Manufacturing Co. He replaced movable type with stereotype plates which could be used again and again. He devised a cylinder embossing press, said to be the first, and in 1909 received a patent titled, "Improvement for printing for the blind in raised letters." In addition to printing improvements, Huntoon designed writing boards, script boards, and tactile maps, which he had bound into an atlas.

Huntoon's greatest accomplishment, however, was the passage of federal support for the Printing House. Huntoon was a persuasive speaker and writer. His leadership on a national level in the American Association of Instructors of the Blind (AAIB) put him in touch with those in the field working to secure federal subsidies to produce tactile books. The Act to Promote the Education of the Blind, passed in 1879, provided the Printing House with a permanent source of funding. As a result, the company soon outgrew its temporary quarters.


a
b
c

Original APH building, 1883

Charles J. Clarke (Filson Historical Society)

The 1883 Building

> It was eminently proper that Kentucky, which has been so prominent in the movement for the education of the blind, should still further illustrate her zeal and public spirit by the erection of the beautiful edifice which you are now about to dedicate.
>
> *Congressman Albert S. Willis, 1883*[35]

While the federal appropriation placed new demands on production, the Act to Promote the Education of the Blind prohibited use of the funds for the lease or construction of buildings. The Printing House was clearly outgrowing its space at the Kentucky School, and there was a pressing need for a new building. In 1865, the Kentucky General Assembly had allocated five dollars for every blind child in the state to APH. When federal funding was secured, the revised Kentucky charter abolished this payment. Over the years, however, the state had not paid the allotment regularly. APH trustees requested that money accumulated in the fund be provided to purchase land and erect a building, and the state complied.

In December 1881, the trustees selected a 6.8 acre tract located on the Louisville and Lexington Turnpike adjacent to the Kentucky School for the Blind. In April 1882, they purchased it for $9,520. The building committee selected architect Charles J. Clarke[36] to design it.

> The Board met on the grounds purchased from D. Franz, Sr. and fixed the location of the building. After the lines were staked out, Judge Bullock, the President of the Board, took the spade and turned the first sod. Dr. Bell turned the next and was followed by Mr. John P. Morton, Mr. John A. Carter, and Mr. T. L. Jefferson who each dug out a spade full of earth and the building was practically begun.
>
> *B.B. Huntoon, 1882*[37]

The three-story brick building contained a composing room, a bindery, a press room, a stereotype foundry, and a fireproof vault for stereotype plate storage. It was formally dedicated on June 12, 1883. The program included songs by pupils of the Kentucky School for the Blind and addresses by Board President William F. Bullock and Congressman Albert S. Willis.

> The whole audience then repaired to the press-room, where Judge Bullock formally started the engines, the revolutions of which meant so much happiness to humanity.
>
> *Unknown journalist, 1883*[38]

Susan Buckingham Merwin (1874–1923)

Secretary and Superintendent APH 1920–1923

Susan B. Merwin

The world with fulsome praise, acclaims
Those high on the scroll of fame,
But, "Susan Merwin" to the blind,
Cherished an enduring name.

Mr. Kaltenbacher[39]

At the death of B.B. Huntoon in 1919, Susan Buckingham Merwin assumed the leadership of the Printing House. Merwin had succeeded Huntoon as superintendent of the Kentucky School for the Blind after his resignation in 1912. She was only the second woman to head a U. S. school for the blind.

Susan Merwin was born November 21, 1874. She was an honors graduate of Louisville Girls' High School and Louisville Normal School and began teaching at KSB when she was twenty-one. Respected nationally, she served as vice president of the American Association of Instructors of the Blind (AAIB) and was associate editor of the organization's magazine, *Outlook for the Blind.* Locally, Merwin served as president of the Louisville Conference of Social Workers. In contrast to Huntoon's interest in the technicalities of production, Merwin's strength was in administration. She stressed efficiency and customer service.

At the behest of the AAIB, she organized a committee to test and develop educational apparatus that could be made available through federal quota funds. Quota accounts were the allocations provided to the schools through the federal appropriation to be used for purchase of APH products. After the U.S. Treasury ruled that APH could not purchase items elsewhere and distribute them through the quota program, Merwin planned to enlarge the facility to manufacture the needed materials.

The APH board sent Merwin to Washington in 1919 to aid in passage of a bill, introduced by Representative Swagar Sherley, to raise the APH appropriation from $10,000 to $40,000. This legislation passed in July. In addition, Merwin was largely responsible for an appropriation from the Kentucky legislature of $25,000 for an annex that doubled the size of the press room and bindery and made room for producing educational aids. Unfortunately, she died suddenly in May 1923, two months before the new addition was completed, from influenza.

SEPT

(GROWING UP BB/FH)
Sect I LF ATL EK/DLM
TURBO PH (3) EK/DLM
TOAD (7) EK/DLM/JR
SQUID 4 KP/DLM
SQUID 5 KP/DLM
PM TXT STRIPS KP/DLM
PM PANEL KP/DLM
AZERS (3) KP/DLM
SEL SW TP/JR/FH
PSSL (4) JR/FH/DLM
LIFE SCI FO/DLM
TREKS FO/DLM/FH
CCTV RULER ER/DD/DLM
VIV VIS LAMP EK/DD/
MAX EYES (3) JR/FH
MVLMA (5) EK/DD
SECT 2 LF ATLAS EK/DLM
LOVE ME SB/DD (2)
BOP GRI (10) EP/DD
BRL BEADS TP/FH
LP 3 JR/FH
CVI (2) CR/DD/FH
X-Y GRAPH ER/DD
BCR (3) AT/DD
MAGNATACH (7) TT/DLM
BRL YD MV/DLM/FH
MBG (6) JW/DD
MBB (6) JW/DD

OCT

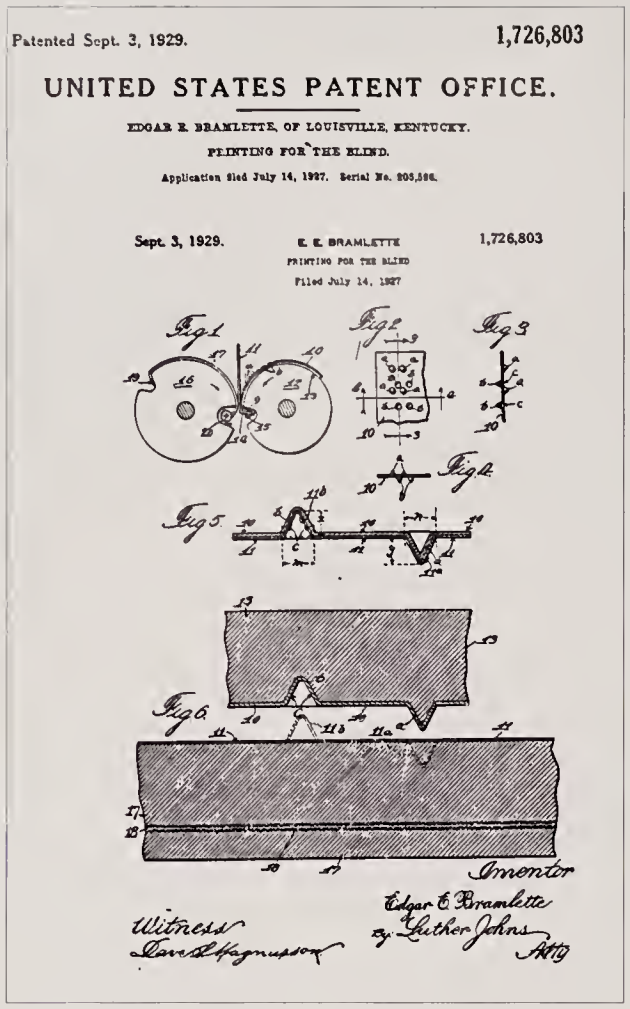
SECT I LF ATL EK/DLM (4)
TURBO PH (3) EK/DLM
TOAD (7) EK/DLM/JR
SQUID 4 KP/DLM
SQUID 5 KP/DLM
PM TXT STRIPS KP/DLM
PM PANEL KP/DLM
AZERS (3) KP/DLM
SEL SW TP/JR/FH
PSSL JR/FH/DLM
LIFE SCI FO/DLM
TREKS FO/DLM/FH
CCTV RULER ER/DD/DLM
VIVID VIS LAMP EK/DD
MAX EYES JR/FH
MVLMA (5) EK/DD
SECT 2 LF ATL EK/DLM
LOVE ME (2) SB/DD
BOP GRI (10) EP/DD
BRL BEADS TP/FH
LP 3 JR/FH
CVI (2) CR/DD/FH
X-Y GRAPH ER/DD
BCR (3) AT/DD
MAGNATACH (7) TT/DLM
BRL YD MV/DLM/FH
MBG (6) JW/DD
MBB (6) JW/DD
WORD PLAY JW/DLM/FH
WILSON (3) JW/DD/DLM
DEV. GUIDE - FH/DD
TOSS AND ALINES - JW/DLM

NOV

SECT I LF ATL (4) EK/DLM
TURBO PH (3) EK/DLM
TOAD (7) EK/DLM/JR
SQUID 5 KP/DLM
PM TXT STRIPS KP/DLM
PM PANEL KP/DLM
FLIP OVER BKS (2) KP/DLM
AZERS (3) KP/DLM
SEL SW TP/JR/FH
PSSL JR/FH/DLM
LIFE SCI FO/DLM
TREKS FO/DLM/FH
CCTV RULER ER/DD/DLM
VIV VIS LAMP EK/DD
MAX EYES JR/FH
FVLMA (5) EK/DD
SECT 2 LF ATLAS EK/DLM
LOVE ME (2) SB/DD
BOP GRI (10) EP/DD
BRL BEADS TP/FH
LP 3 JR/FH
CVI (2) CR/DD/FH
X-Y GRAPH ER/DD
BCR (3) AT/DD
MAGNATACH (7) TT/DLM
BRL YD MV/DLM/FH
MBG (6) JW/DD
MBB (6) JW/DD
WORD PLAY JW/DLM/FH
WILSON (3) JW/DD/DLM
DEV. GUIDE - LIN. SKIND
TOSS AND ALINES - JW/DLM

DEC

TURBO PH (3) EK/D
TOAD (7) EK/DLM/J
SQUID 5 KP/DLM
PM TXT STRIPS KP/D
PM PANEL KP/DLM
FLIP OVER BKS (2) K
AZERS (3) KP/DLM
SEL SW TP/JR/FH
PSSL JR/FH/DLM
LIFE SCI FO/DLM
TREKS FO/DLM/FH
CCTV RULER ER/D
MAX EYES JR/FH
FVLMA (5) EK/DD
SECT 2 LF ATLAS EK
LOVE ME (2) SB/DD
BOP GRI (10) EP/D
BRL BEADS TP/FH
LP 3 JR/FH
CVI (2) CR/DD/FH
X-Y GRAPH ER/DD
BCR (3) AT/DD
MAGNATACH (7) TT/
MBG (6) JW/DD
MBB (6) JW/DD
WORD PLAY JW/DLM/
WILSON (3) JW/DD/
OTW HAND SW/DD
FOCUS MATH SU/DD/D
NON-VERBAL JR/DLM



Patented Sept. 3, 1929. 1,726,803

UNITED STATES PATENT OFFICE.

EDGAR E. BRAMLETTE, OF LOUISVILLE, KENTUCKY.

PRINTING FOR THE BLIND.

Application filed July 14, 1927. Serial No. 205,586.

Sept. 3, 1929. E. E. BRAMLETTE 1,726,803

PRINTING FOR THE BLIND

Filed July 14, 1927

Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5 Fig. 6

Inventor

Edgar E. Bramlette

by Luther Johns

Atty

Witness

(U.S. Patent & Trademark Office)

Edgar Eliott Bramlette (1860–1929)

Secretary and Superintendent APH 1923–1929

E.E. Bramlette

> He will always be remembered for the efficiency, devotion and success with which he conducted the affairs of the Printing House.
>
> *Edward M. Van Cleve, 1929*[40]

With the exception of the nine-year period between 1912 and 1919, APH and the Kentucky School for the Blind had always shared a superintendent. In 1923, the APH board decided that the Printing House needed a full-time administrator. They set a salary of $5,000 and appointed a search committee.[41]

The board followed APH tradition and selected a school administrator in the person of Edward Elliott Bramlette. Born on a farm near Frankfort, Kentucky, his family moved to Texas when he was a boy. Bramlette held degrees from Vanderbilt University and the University of Texas, as well as a Ph.D. from the University of Leipzig, Germany. He served as president of John Tarleton University near Fort Worth, Texas. For thirteen years prior to accepting the position at the Printing House in 1923, Bramlette led the Texas School for the Blind. Married with two daughters and a son, Dr. Bramlette was also the grand-nephew of Thomas E. Bramlette, governor of Kentucky during the Civil War and a trustee of the American Printing House for the Blind from 1868 to 1874.

Bramlette was not lacking in mechanical knowledge or abilities. He introduced APH to interpoint printing, which embosses braille on both sides of the page, and designed a stereotype machine to make plates for both one-sided and interpoint printing. He designed a new press for rapid printing of interpoint pages that embossed 9,000 pages an hour.

By 1928, braille had largely supplanted the other tactile systems. There was increased demand for braille slates, the hand tools used to write the braille code. When the opportunity arose to purchase the slate-making shop of the Cooper Manufacturing Company in Chicago, Bramlette bought the equipment. He hired trained machinists, and APH produced over two thousand slates in 1928.

A frugal manager, Bramlette was able to reduce book prices twice during the 1920s by negotiating additional federal contracts and increasing efficiency inside the plant. In 1926, he paid for a third-story addition to the building from book sales profits. Bramlette's most enduring contribution was the braille edition of *Reader's Digest*®, which has been published continuously since its introduction in 1928. Dr. Bramlette died in 1929 at age sixty-seven.

Opposite: Boxing Reader's Digest, 1949


Reader's Digest
BRAILLE EDITION
Reader's Digest
BRAILLE EDITION
Reader's Digest
BRAILLE EDITION
Reader's Digest
BRAILLE EDITION
Reader's Digest
BRAILLE EDITION
Reader's Digest

Andrew C. Ellis (1897–1947)

Secretary and Superintendent APH 1930–1947

A.C. Ellis

During his seventeen years at the Printing House he was largely responsible for the Institution's great expansion.

Proceedings, American Association of Workers for the Blind, 1947

Andrew C. Ellis was a native of Texas and a graduate of Sam Houston State Teachers College and the University of Texas. Like Bramlette, Ellis was superintendent of the Texas School for the Blind before coming to APH in 1930. He was married and had one son.

Ellis brought to the Printing House a new energy that kept pace with current technological developments and a talent for communication that brought the work of APH into the public eye as never before. His expansive personality was revealed in the first APH public relations plan. This 1936 initiative blanketed leading newspapers and magazines with news about the Printing House and issued the first fully-illustrated company annual report. Faced with wartime labor and material shortages as well as demand that strained the limits of his facilities, Ellis was able to initiate two of the most important projects in APH history—Talking Books and Large Type Books.

His first order of business was to deal with increased demand for tangible apparatus. In 1931, the press room vacated the third floor, and the company's machine shop moved into that space. Ellis wrote in the 1931 annual report, "With ample space, a good machinist, and a fair supply of equipment for the shop, the Printing House is the logical agency to improve, develop, and manufacture all types of devices and appliances needed by the blind."

There was a great demand for braille writers. In order to make them available on quota, APH obtained disassembled models of the German Picht machine and assembled them in-house. Several years later, in 1940, the APH-designed New Hall Braille Writer was offered for sale. The company immediately received 1,500 orders for the writer, although World War II delayed full production for many years.

Ellis attended the landmark 1932 London Type Conference where the United States and the United Kingdom adopted Standard English Braille (Grade 2). This agreement followed twenty years of debate over which of the braille codes would be used in the United States. Ellis returned to Louisville with a collaborative venture between APH and the Royal National Institute for the Blind (RNIB) in Great Britain, the two largest braille presses in the world. The two organizations agreed to make duplicate stereotype plates from each book project to exchange with each other. Ellis was proud of the duplicate plate-making machine, designed and built in Louisville, and circulated photographs of the machine in operation. The Printing House and RNIB were unable to work out a fair method of exchange, however, and duplicate plate-making was discontinued in 1939.

Workers on the record press line, circa 1938

APH contract work in the early 1930s included the Braille Book Project for the Library of Congress, a braille dictionary for the Braille Institute of America, and over three thousand Bibles for the American Bible Society. To keep up with the demand for braille, APH manufactured its own stereotype machines and added a modern Kelly Automatic Cylinder Press for the production of both print and braille.

Ellis also followed developments in the early 1930s by the American Foundation for the Blind (AFB) to produce recorded books for the blind on vinyl records. Initially, Ellis was skeptical. "I have the greatest respect for honest research and constructive investigation, he wrote a colleague. "However, I am disgusted with the tendency to spend money on personal schemes which result in very little good to the blind."[42] Once convinced of the benefit of recorded books for older Americans who might never read braille, he changed his mind. By 1937 the company had a complete operation to produce talking books, from recording to finished pressings. The first recorded book contract with the Library of Congress was signed in 1938 and, in 1939, APH introduced a recorded version of *Reader's Digest.*

Space for manufacturing at the Frankfort Avenue building grew increasingly limited. Eighty workers crowded into a space designed for thirty. Some operations were moved to a leased building on Brook Street in 1938 and to a Broadway location in 1940. The trustees considered relocation of the company, but decided instead to enlarge the existing building. Ellis worked to plan the new addition, but died in 1947 before the building was completed.

Finis E. Davis (1912–1998)

Superintendent 1947–1976

Finis Davis

> It is largely through his efforts that Louisville has become a nationally and internationally–known center for services to the blind.
>
> *Audrea McDowell, 1966*[43]

Finis Davis became superintendent of APH in 1947 after eight years as superintendent at the Arkansas School for the Blind. He was a native of Arkansas and a graduate of both Arkansas Polytechnic College and the University of Arkansas. Davis was vice president of the American Association of Instructors for the Blind and, in 1973, was awarded the American Foundation for the Blind's Migel Medal for Outstanding Service in the field of education and work for the blind. Recognized by three South American governments for his aid in setting up their braille presses, he also received numerous awards including an honorary Ph.D. from the University of Louisville.

In addition to his work in professional organizations, Davis was heavily involved with the Lions Club and its projects to benefit blind people. He served a term as president of Lions Club International in 1960, and in 1968, led the fund drive to build the Kentucky Lions Eye Research


and Other Essays
the Urban Landscape

Institute. Later that year, he was awarded the Lions International Humanitarian Award, the highest award given by that organization.

Building expansion was the defining feature of Finis Davis's twenty-nine years as leader of the Printing House, prompted by growth in every aspect of the operation. In 1949, revenue exceeded one million dollars for the first time. Under his leadership, there were twelve significant additions to the original building. The company emphasized that all of the building funds were raised through public donations. No tax money was used.

Under Davis, APH established a large type department in 1947. Initial trials begun in the 1930s had produced a model book, but manufacturing space was too confined to allow further advances until the construction of the manufacturing annex in 1947. New educational aids were also added in the late 1940s and 1950s—Cubarithm Arithmetic Frame, Hoff Aid to Mathematics, Brown Slate, and others. APH also redesigned several older products. The old wooden spelling frame was updated using light-weight magnesium alloy. APH staff developed new methods that made relief maps less expensive and easier to manufacture, replacing the hand-carved wood with molded plastic.

But slates and braille writers still topped the list of the most requested equipment. APH could produce about ten thousand slates a year and finally caught up with demand in 1948. Production of the company's New Hall Braille Writer lagged, generally due to unavailability of parts. To satisfy demand, APH obtained permission to produce the newly-introduced Perkins Brailler and, in 1955, received several hundred subassemblies from Howe Press. APH finished the assembly and offered them to quota accounts for ninety dollars. Work also began on a project to produce a light-weight, modern APH braille writer that would become known as the Lavender Braille Writer. By 1962, APH was producing all three models: an improved New Hall, the Lavender, and the Perkins Brailler.

In 1951, APH began manufacturing adapted phonograph record players used to play Talking Books and would later adapt Talking Book tape and cassette players. The Printing House introduced the first recorded weekly publication, *Newsweek® Talking Magazine*, in 1959, coinciding with the 25th anniversary of Talking Books. Davis accomplished a milestone in braille literature when APH produced the braille edition of *World Book Encyclopedia* with funding from the Field Foundation. The encyclopedia was the largest braille project ever undertaken when APH completed the 145-volume set in 1964. In 1970, APH recorded a Talking Book edition.

The company made a historical leap forward when it joined forces with IBM in the late 1950s to develop a computerized system for the automatic translation of print material into braille. This accomplishment changed braille production worldwide. APH administrative departments also benefited from the introduction of computers. Davis provided the latest office equipment to his employees. He updated the fundraising and magazine subscription department with IBM office equipment in 1959, and the next year the system was expanded to include accounting and general office functions. Finis Davis retired from the company in 1976. He died in 1998.


BLANC
2
Workbook
McDougal Littell
Discovering
FRENCH
Nouveau!
Valette
Valette

Carson Y. Nolan (1925–)

President 1976–1988

For many years Dr. Carson Nolan has provided APH with the strong leadership needed to guide us through difficult times.

June E. Morris, 1989

Carson Nolan

Carson Nolan was born in Indianapolis, Indiana. He received his BA and MA degrees from the University of Kentucky and his Ph.D. from Washington University in St. Louis. He and his wife, Bess, had four children. Nolan retired from the Printing House in 1988.

Nolan began his career at the Printing House in 1957 as the director of the Department of Educational Research. His department led or participated in the development of most of the company's new products over the next twenty years. In the process, APH became nationally known as a center for basic research into education and vision loss. Nolan was a natural choice to assume the company presidency in 1976 following the resignation of longtime company chief Finis Davis. The 1970s, however, was a time of great change for the Printing House. Two key managers—production head Virgil Zickel and braille editor Marjorie Hooper—had resigned in 1974. The company employed the largest workforce in its history—nearly six hundred workers. Nolan sought to modernize by hiring qualified staff and reorganizing departments.

Automation was the watchword. Nolan instituted a computerized business management system that promised to track inventories, costs, profits, and losses and generate timely reports. Along with reorganized procedures and the management system, Nolan instituted a formal budget for the company. The computer system provided routine accountability. Nolan also directed a $2,000,000 addition to the manufacturing facility in 1980 and guided managers and employees through negotiations with the newly-elected Teamsters Union in 1981.

The onset of recession in the early 1980s was a source of financial stress. Budget deficits heightened the importance of efforts to improve productivity and increase cost-effectiveness. Production activities were placed under the direction of a single manager, Jack Decker. Job classifications were combined to provide greater flexibility in worker assignment. The consolidation of work areas facilitated process flow and better use of the skills of available workers.

His prior work in the Department of Research gave Nolan great insight into the needs of teachers and students in the field. He was able to direct funds from the Act to Promote the Education of the Blind to educational product research and, for the first time, educational aids production outpaced braille, Large-Type, and Talking Books. He oversaw the computerization of the Central Catalog which was named APH-CARL (Central Automated Resource List) when it was completed in 1987. APH-CARL became a popular resource for teachers and students alike.

Worker fixes a braille mistake on an embossing plate with correcting tongs, 1966

Nolan was known as a tireless advocate for the Federal Quota Program and strengthened the program's administration at APH by establishing a separate department, Educational and Advisory Services. This department was charged with managing the Federal Quota Program, communication with ex-officio trustees and coordination of the field work of APH representatives.

During his career Nolan published over one hundred monographs, chapters, and articles on the education of blind and visually impaired students. He co-authored a book, Perceptual Factors in Braille Word Recognition and edited two journals in the field. In 1989, his work in the field was recognized with two awards—the American Library Association's prestigious Francis Joseph Campbell Award and the Migel Medal from the American Foundation for the Blind.

Tuck Tinsley III, Ed.D. (1946–)

President 1989–Present

Tuck Tinsley

> I was impressed with Tuck's thirst for best practices in the management of organizations, whether they are for profit or not-for-profit. I believe he has revolutionized the way APH functions.
>
> *Carl Augusto*

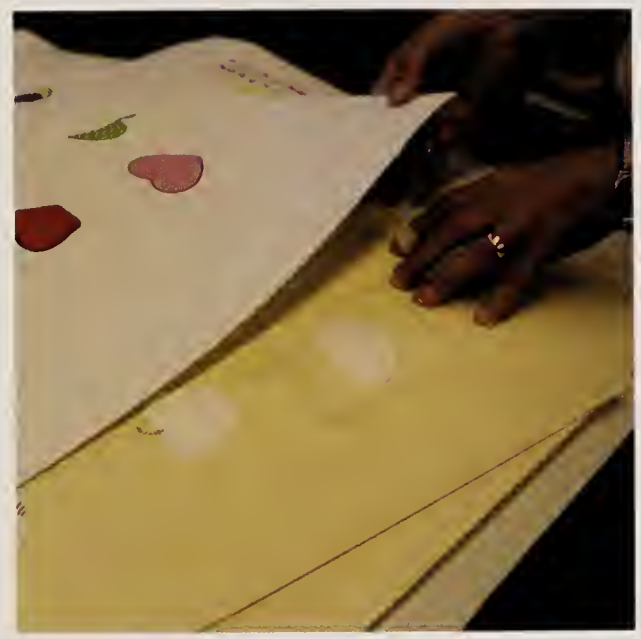
Tuck Tinsley was born in Jenkins, Kentucky, and moved to Florida with his family as a boy. He began his career as a mathematics teacher at the Florida School for the Deaf and the Blind and became the principal in 1980. He was selected to lead APH in 1989 after twenty-one years at the Florida School. Dr. Tinsley received his B.S. and M.S. degrees from Florida State University and his Ed.D. from the University of Florida.

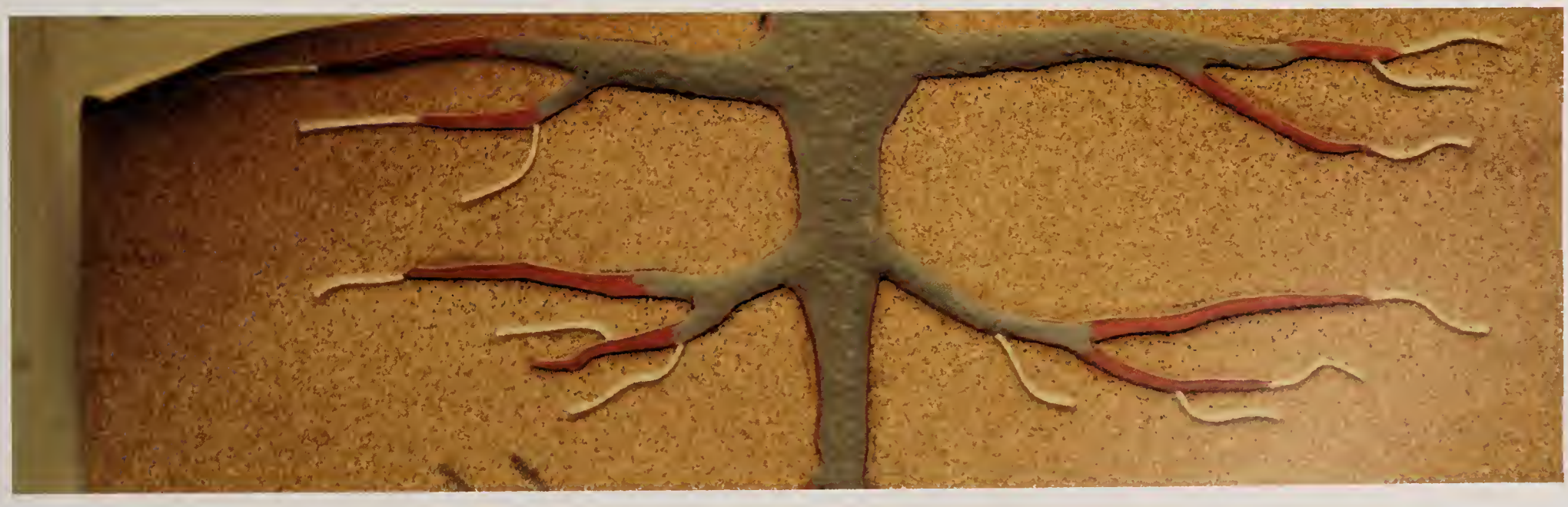
Early in his tenure, Tinsley created a management team drawn from throughout the company. The team developed policies and procedures, performance plans, and a compensation program for non-bargaining employees. He was the first APH president to introduce the strategic planning process. The initial plan targeted backorders, internal communication, public relations, revenue, braille production costs, overhead, and the development of a comprehensive fundraising plan.

Tinsley directed a major communications upgrade that addressed many issues identified in the strategic plan. The highlight was the debut of the APH web site in September 1996. An on-line product catalog made ordering faster and easier. He revolutionized internal communications through a company-wide computer network with internet access and email for employees. A toll-free telephone line made product ordering faster and easier, especially for those with vision loss.

By 1996, Tinsley developed a second strategic plan, this one based on "the voices of our customers." For this plan, APH staff interviewed current and potential users of APH products. One important outgrowth of the second strategic plan was a company-wide reorganization in 1997. Tinsley replaced the former nine-member management team with an executive committee

Tactile Page: Raised line map of the western hemisphere labeled in New York Point, prepared at the American Printing House for the Blind in 2008 on a clamshell press using brass plates originally created in the 1890s for the company's line of tactile cardboard maps





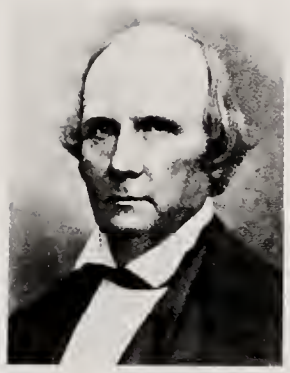
consisting of the president and four vice-presidents. Three of the positions were new. To focus on operational issues and communicate current information, Tinsley created a leadership team that was made up of the executive committee and supervisors from twenty-three departmental areas.

In addition to improving communication with customers, Tinsley concentrated on keeping ex-officio trustees informed, listening to their concerns, and taking advantage of their expertise. During 2002, he established a new structure for the ex-officio trustee advisory committees. Improved relationships with publishers allowed APH to establish the country's first file repository for textbook publishers' files for braille translation. Tinsley moved the Central Catalog that began in Dr. Nolan's administration into digital format. He also reorganized the way the company determined what products to develop and the way the Research Department functioned.

Dr. Tinsley also focused on efficiency. In August 1996, Toyota Motors selected APH as a "project company." APH became the first not-for-profit to participate in the Japanese carmaker's innovative mentoring program. The process improved plant productivity and reduced costs through the adaptation of the Toyota Production System to APH's unique manufacturing applications. APH also joined the Center for Quality of Management.

Tinsley not only restructured existing departments and activities, but also created new ways to serve customers and reach out to the public. He formed the company's first customer relations and public affairs departments. Tinsley's enthusiasm for celebrating the history of the blindness field and the accomplishments of people with visual impairments led to the creation of the APH Museum, the Hall of Fame for Leaders and Legends of the Blindness Field, and the InSights Art Exhibition.

Since his appointment to the APH presidency in 1989, Tinsley has been awarded the Kentucky Association for Education and Rehabilitation of the Blind and Visually Impaired Exceptional Service Award in 2001, the Florida State University College of Education Distinguished Alumni Award in Business and Industry in 1997, and the Council of Schools for the Blind William H. English Leadership Award in1997. Tinsley's professional activities included service as a delegate to the North American/Caribbean region of the World Blind Union, and as a board member of the Association for Education and Rehabilitation of the Blind and Visually Impaired and the Kentucky School for the Blind Charitable Foundation. He published numerous professional monographs and articles on subjects related to the education of blind and visually impaired students.



James Guthrie
(Filson Historical Society)

John Barr, Jr.

Virginia T. Keeney, M.D.

W. James Linter, Jr.

The Local Board: Corporate Trustees

The 1858 Kentucky Charter incorporated a board of trustees, with the ultimate oversight authority for APH operations and staff. The first president was lawyer, politician, and business leader James Guthrie, who served as Secretary of the Treasury under President Franklin Pierce.[44] Guthrie remained APH board president until his death in 1869. Long service has been a distinguishing characteristic of the APH board. There have been seventy trustees in the history

Delegates, many of whom were APH ex officio trustees, at a 1910 meeting of the American Association of Instructors of the Blind in Little Rock, Arkansas

of the Printing House, and of these, twenty-four have served more than twenty years. The Barr family has been represented on the board by four consecutive generations, beginning with John Watson Barr, Jr. Barr served from 1905 to 1941, a record for the longest term.[45] The first woman on the board was Virginia Keeney, M.D., whose board service began in 1981.

The National Board: Ex Officio Trustees

The 1858 charter designated the presidents of state APH auxiliary boards to constitute a board of visitors with the power to investigate the institution and remove irresponsible trustees. The auxiliary boards, however, were often led by officials chosen more for their social prominence than their knowledge of the education of blind students. In order to include professionals in the field, an 1860 amendment to the charter expanded the composition of the ex-officio board. In addition to the auxiliary board presidents, it would include the heads of state institutions "devoted exclusively to the education of the blind" and the governors of the states that funded the Printing House.

The ex-officio board was completely given over to professionals in the blindness field by the Act to Promote the Education of the Blind, passed in 1879. The Act directed that superintendents of schools for the blind in the U.S., its territories, and District of Columbia be designated APH trustees ex-officio—agents of the government charged with oversight of the Printing House. The Kentucky charter was amended to comply with the federal act. In 1961, state public school officers joined the school superintendents as ex-officio trustees and were permitted to appoint a designee to serve in their place.

The Act mandated an annual meeting of the ex-officio trustees. Between 1880 and 1909, the annual meetings alternated between Louisville and the site of the biennial meeting of the American Association of Instructors of the Blind. In 1909, Kentucky law required that the annual meeting be held in Louisville. At the annual meeting, trustees received reports on current APH projects and provided expert advice to APH staff.

Ex-officio trustees served on standing committees that met at other times during the year as well as the annual meeting. In 2008, standing committees included the Educational Products Advisory Committee (EPAC) and the Educational Services Advisory committee (ESAC). The guidance of the trustees through their participation on the Committees determined the scope and content of APH research, products, and services.


11860


DONT CUT
METAL

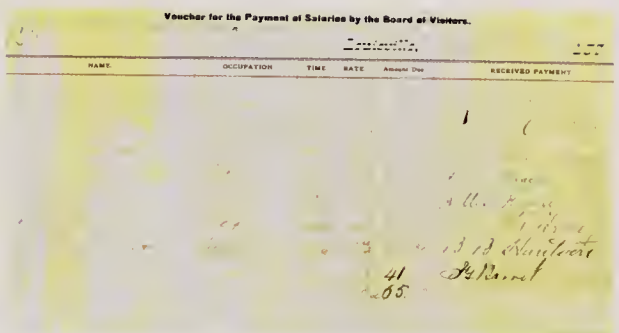

HALL'S SAFE
& LOCK
LOUISVILLE
AND
CINCINNATI.

Chapter 3: Printing House People

Foreman Owen McCann, center front, and APH staff, circa 1920

The May 1879 APH Payroll

B.B. Huntoon, superintendent	*one month $58.35*
Martin McCabe, pressman	*one month $50.00*
Emma L. Kelly, compositor	*one-half month $22.50*
Frank Cahill, compositor	*one week $10*
Alice Baugh, binder	*four weeks $16.00*
Nellie Kenney, sewer	*four weeks $12.00*
Cora Defenbaugh, stereotyper	*four weeks $24.00*
John Tierney, boy of all work	*four weeks $16.00*


Voucher for the Payment of Salaries by the Board of Visitors.

NAME. OCCUPATION TIME RATE Amount Due RECEIVED PAYMENT

APH Payroll, 1879

The Workers

"It's really been a challenging career. I've been fortunate to work with a lot of very talented people in the field of blindness and visual impairment. I tell you, it's really been something."

Ron Gadson, APH employee

As APH expanded from a small print shop into a multi-faceted production facility, the workforce grew accordingly. The earliest employee record from 1879 listed eight full-time employees. In the following forty years, it grew to twenty employees, then to eighty employees in 1935, to peak at nearly 600 in 1975. In 2008, APH employed around 330 people.

The first employees were laborers with outstanding manual skills, practical knowledge, and the flexibility to pour hot metal for stereotype plates in the morning and stitch book bindings in the afternoon. APH reported by 1933 that educational levels for its employees were on the rise. Clerical and stereotype workers had at least a high school education. Several college graduates were added to the staff and other employees were encouraged to take leaves of absence to continue their education. Staff participation in national conferences of organizations serving blind people grew significantly. APH was represented at these meetings by employees in leadership roles who prepared and presented scholarly papers, conducted workshops, demonstrated products, and promoted contract sales.

Visitors to the Printing House often questioned the number of employees who were visually impaired. Some had the misconception that APH was a "sheltered workshop," a vocational opportunity designed to employ blind workers. That was, however, never a primary goal of the company's founders. The first employee with a visual impairment on record was Lula May Wash, a proofreader who began in 1922. Tina Lou Wallace, a blind employee, worked at APH for fifty-three years, beginning in 1932 as a braille proofreader.[46] In 1992, APH began a nationwide effort to recruit visually impaired workers. The hiring process that followed resulted in a 7% increase in visually

Shipping Department, circa 1940

Lula May Wash, right

Along with employers throughout the country, the Printing House adjusted employee wages in compliance with the national minimum wage established by the Fair Labor Standards Act of 1938. When the minimum wage was raised in 1949, APH production workers' wages increased from seventy and one-half cents to ninety cents an hour. The increased wages resulted in an increase in catalog prices.

According to unrecorded oral history, APH's braille presses were run exclusively by men until World War II, when women were put on the presses due to the shortage of male workers. The women rose to the challenge, and the braille presses have been run by women ever since!
Mary Nelle McLennan, APH employee

Clamshell press line, 1937

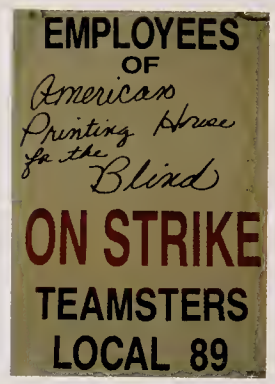
impaired workers over the next year.[47] By 2008, 18% of APH employees had federally defined disabilities; of that number 55% were visually impaired.

Labor Shortages and World War II

The 1943 annual report described the labor problem at APH as "acute." The Printing House had been declared an essential industry under the Louisville Employment Stabilization Plan and exempted by the National War Labor Board. This allowed APH to raise wages to keep skilled workers. Despite this advantage, the Printing House lost fourteen employees, about 10% of the workforce, to the armed services and a number of others to higher paying jobs in the defense industries. It was impossible to get replacement staff, and the work week was extended to 44 hours.

Even more critical was the scarcity of raw materials. Many materials essential to producing embossed books, tangible apparatus and Talking Books were also essential to the American war effort. The company had to convince the War Production Board to grant exemptions to purchase restricted materials.

The Union

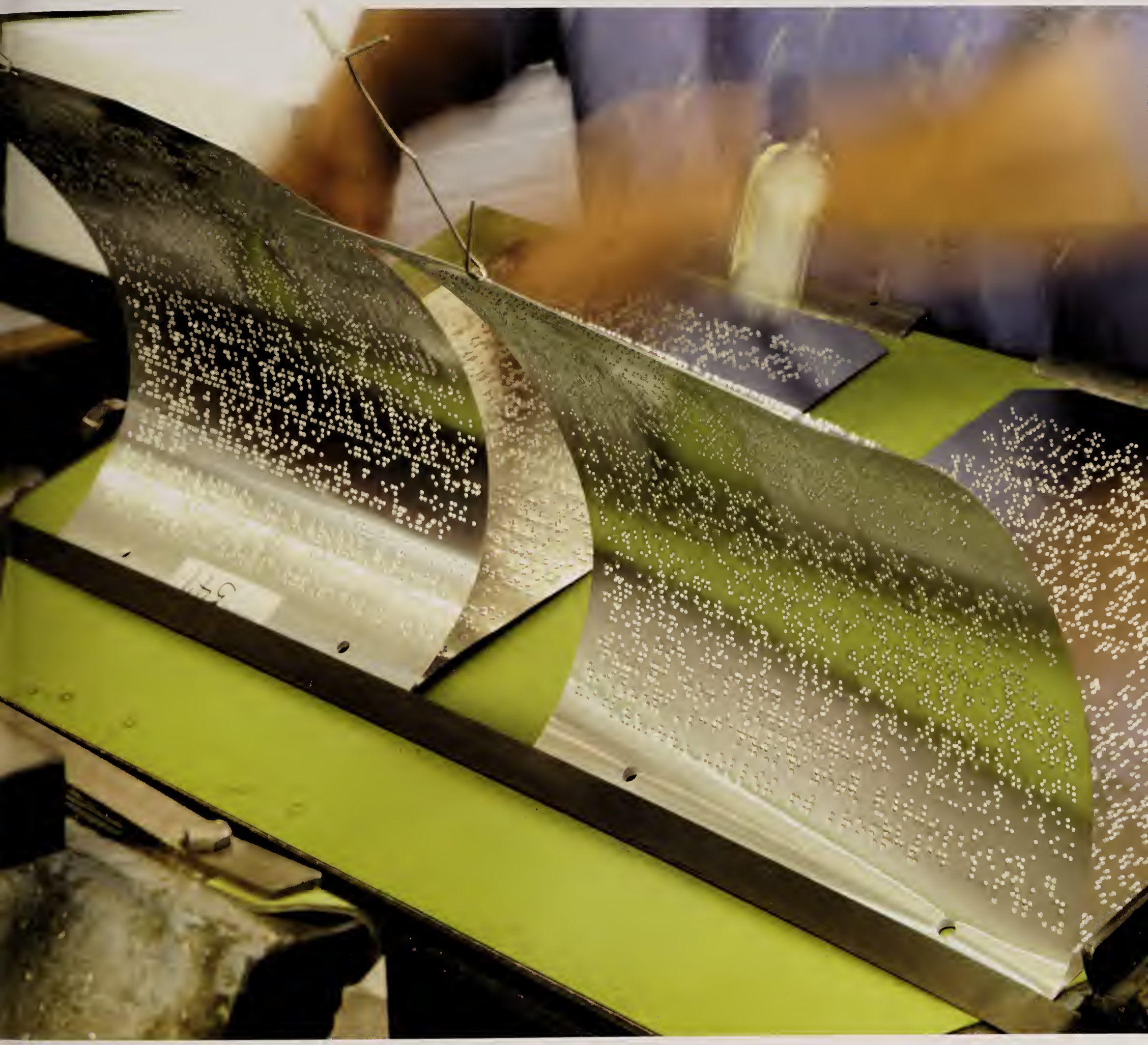


In January 1981, production workers at APH voted to join the Teamster's Union. President Carson Nolan said that negotiating a contract was a new experience for negotiators on both sides. Nolan set up a personnel department to review job descriptions, wage scales, and fringe benefits necessitated by the labor negotiations. "In many ways the union was a blessing," Nolan said. "It caused us to react and to improve many things that should have been paid attention to previously."

The changes, however, were not painless. Two strikes occurred after contract renewal negotiations failed. The first strike in 1988 lasted three weeks. The second strike lasted seven weeks, beginning right after Thanksgiving 2005. Although the strikes were disruptive, APH managed to fulfill its obligations to blind and visually impaired customers. Employees in the recording studio followed the other areas of production in 1998, joining AFTRA (the American Federation of Television and Radio Artists). Contract negotiations went on for two years and those workers also went out on strike for a few weeks in 2000.

Retaining Employees

The diverse functions of APH have required a wide range of skilled workers–employees who could run a printing press or a cassette tape loader, computer programmers, braille proofreaders, model makers, customer service representatives, or experts who could prepare and present a paper at a national conference. This diversity of departmental functions and the company's modest size



Machining a dissected tactile map

allowed APH to function for many years with an unstructured management style that varied from department to department. In general, however, APH reflected the corporate philosophy of the day. Employers were more focused on consumer demands and production speed than the needs of employees.[48] The recognition that productivity was linked to worker satisfaction came later.

In 1915, APH announced its first vacation policy. The company shut down operations during the first two weeks of August. It was likely the "vacation" was unpaid. By 1937 APH employees working at least thirty-five hours a week received two weeks paid vacation and six paid holidays, putting APH ahead of many other U.S. companies.[49] Five days of sick leave per year were added to employee benefits in 1940. By 2000, employees received vacation days according to years of service, up to a maximum of four weeks. All employees received nine paid holidays.

The APH Board considered an employee retirement plan for the first time in 1945, prompted by the retirement of Owen McCann, who retired in his sixty-fourth year of service at age 79. McCann started working at APH in 1880 when he was fifteen. Because of his age and ill health, the board awarded McCann forty percent of his base pay or sixty dollars per month. The announcement noted that there were other employees with thirty-plus years of service whose pensions would soon be at issue. In 1949, the APH board announced the establishment of the retirement plan, which, they boasted, had 100% participation by eligible employees. APH shared the cost with employees. By 1976 the Printing House had assumed the full cost of the plan.[50]

Hospital insurance was made available to employees for the first time in 1954. Life insurance had been added in 1949. By 2006, the health insurance benefit was by far the most valuable incentive provided to employees. Prior to 1972, non-profit corporations were not required to pay unemployment insurance. The policy was changed in that year, and APH workers became eligible for standard unemployment benefits. Rising healthcare costs in the twenty-first century led the company to experiment with various wellness efforts including incentives to lose weight and stop smoking.

Randy Atcher

The first recorded company-sponsored social event occurred in 1925, when employees were treated to a day at Rose Island, an amusement park on the Ohio River. Over the years, company picnics gave employees a chance to bring their families, show off children and grandchildren, and enjoy food and games with their co-workers. The annual holiday lunch at Christmas became a company tradition. For many years before his death in 2002, TV singing cowboy and APH narrator, Randy Atcher, performed at the holiday lunch. Dressed in cowboy garb, he delighted his audience by singing his composition, Santa Claus Rides a Snow White Pony.

Service awards were initiated in 1954, recognizing employees with twenty or more years of continuous employment. A service pin, in the shape of a book, became a company tradition, awarded in recognition of ten years of service.[51] Employees were celebrated at a banquet or luncheon

30 year service pin

This APH secretary from the 1940s had an array of equipment, including typewriter, Picht Stenographic Braillewriter, Dictaphone, and several telephones

Making the Connection

Most employees came to work at the Printing House with no knowledge of the unique needs of blind and visually impaired students or of APH's specially designed educational tools and materials, braille and large-type books. When APH employees met people with visual impairments and learned how the products were used, it added a new and rewarding dimension to their work.

> I really enjoy working here. I've seen letters from family members about how our products have turned the lives of their loved ones around, or given them meaning for life. To me that's fulfillment, making a difference in someone else's life.
>
> *Jim Hill, APH employee*

Female Managers at APH

Susan Merwin was the only woman to serve as superintendent, however, women twice managed APH through the transition between superintendents. Roseanna McCann was named assistant superintendent to Bramlette in the late 1920s. When Bramlette died, she took over as acting superintendent until Ellis was hired as superintendent. In 1989, June Morris served as interim chief executive officer after Nolan retired in 1988. The next year, she was named executive vice president when Tuck Tinsley became president.

held in their honor. President Tinsley created a new award in 2003, the APH President's Award.[52] Ron Gadson, APH maintenance division manager, was selected as the first recipient.

To involve employees in improving their work environment, APH management initiated a Continuous Improvement Program in 2000. Its goal was to change the APH work culture to one that continually reviewed operations to increase efficiency and reduce waste. All employees were involved on the 23 continuous improvement teams that held monthly meetings. APH established the position of Chief Quality Officer (CQO) to oversee the program, and Arthur Vaughn, former chief union steward, was selected as the first CQO.

The Managers

> Our continued success can be directly attributed to dedication to customer considerations, product development, and our diligence in maintaining and strengthening our corporate infrastructure.
>
> *Tuck Tinsley III, 2004*

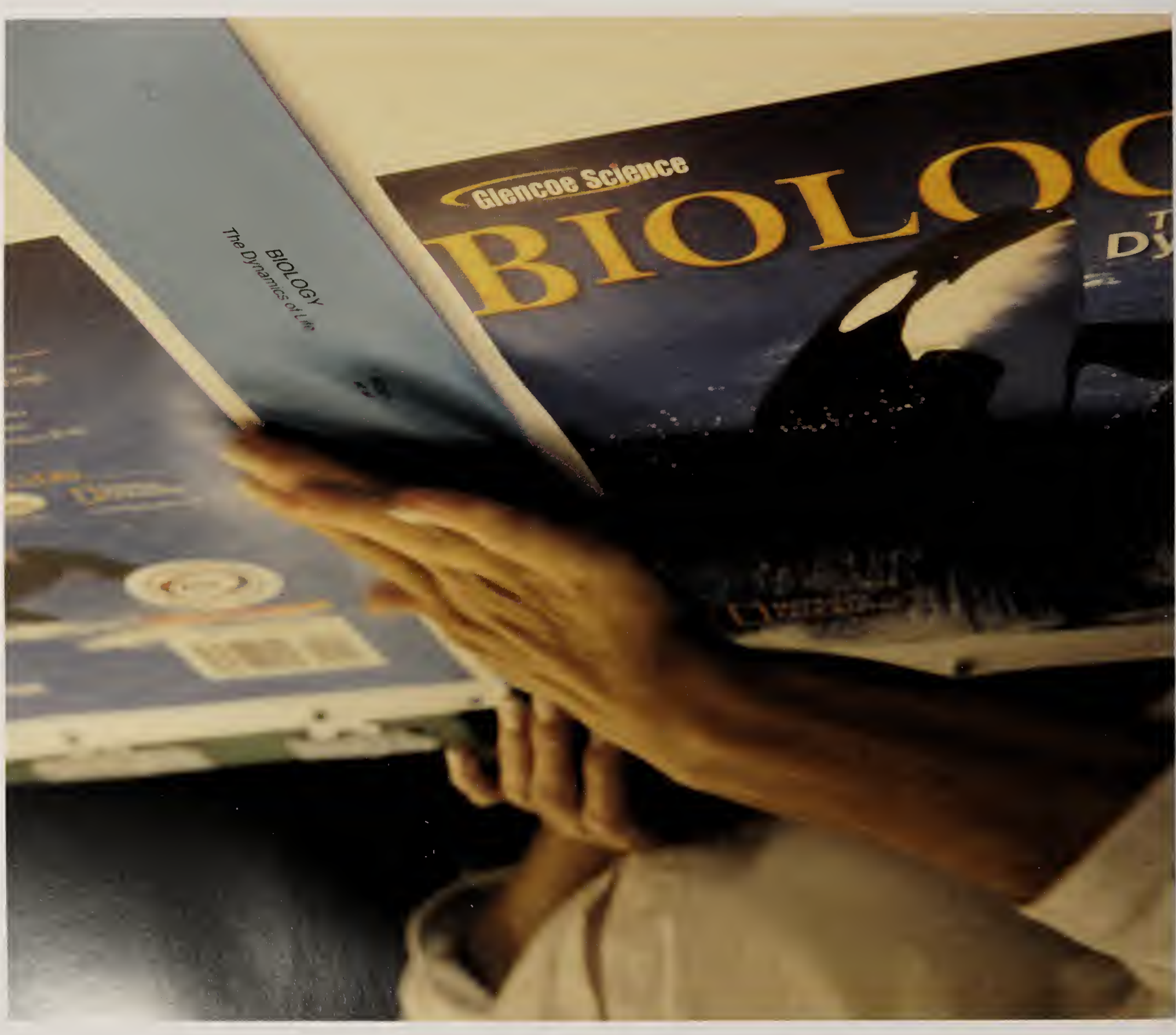
The first priority of the early APH superintendents was often the Kentucky School for the Blind. Nevertheless, Patten and Huntoon were passionate about the fledgling printing house they were nurturing. Both tinkered with the presses and made experimental map carvings. Reports from the 1870s described Mr. Huntoon, formally dressed, including his top hat, demonstrating his carving skills to visitors. Huntoon's hands-on management style set the tone for the coming years. Bramlette invented a stereotype machine and a press for interpoint printing. Ellis was engrossed in acquiring the machinery and materials to record and produce Talking Books. As the company grew, administrative demands occupied the superintendents. They turned to managers with specialized experience or advanced education to run daily operations.

In the mid-twentieth century, a core team of great longevity resulted in considerable stability for the company. Virgil Zickel was the plant manager from 1946 to 1973 and made major expansions of the plant. He used his engineering skills to keep the manufacturing operations

Susan B. Merwin

Roseanna McCann

June Morris


Glencoe Science
BIOLOG
BIOLOGY
The Dynamics of Life

running smoothly. Marjorie Hooper, braille and large-type editor, an internationally-known braille expert, managed the Braille Department. Jane Kent, controller, was a former school teacher who kept a close eye on the books and was famous for her frugality. Hazel Maffet was in charge of magazine circulation and fundraising. Maffet was a strict and professional manager who maintained meticulous files of donors and magazine subscribers.

This core group, led by Superintendent Finis Davis, guided APH for the better part of thirty years. Carson Nolan described the corporate culture of the Printing House when he became president in the mid-1970s. "It was pretty old-fashioned," he related. APH had no personnel department to set company-wide employment policies. Each department had its own work policies and operated more-or-less independently. Nolan reorganized management and recruited professionals in research, production, finance, marketing, and education or rehabilitation of people who were visually impaired or blind to fill supervisory positions.

President Tuck Tinsley initiated a company-wide reorganization in 1997 to improve the work of APH, meet customer demands, and reflect changes in technology. Tinsley appointed an executive committee as the major administrative decision-making body. It was made up of President Tinsley, Jack Decker, vice president of production, and three new vice presidents: Mary Nelle McLennan, vice president of products and services, Bill Beavin, vice president of finance, and Don Keefe, vice president of development.

Tinsley added a second layer of management, the leadership team, made up of the executive committee and floor supervisors from twenty-three areas. In 1997 APH was invited to become a member of the Louisville Chapter of the Center for Quality of Management (CQM), a consortium of companies dedicated to the best management practices available. By keeping abreast of the latest management ideas, APH management could respond effectively to changes in the needs of customers and staff.

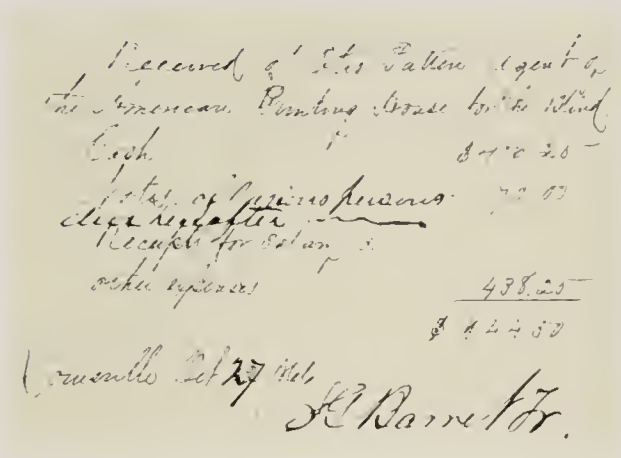
APH Superintendent Finis Davis, left, and Controller Jane Kent, 1973 (Louisville Courier-Journal)


POLAR
VOLTS/DIV
DISPLAY MODE
REAL
REAL & STORAGE
STORAGE
PRE TRIG
MODE
AUTO
NORM
SINGLE
CLOCK


PAN
3
MUTE
4
MUTE
5-6
MUTE
7 8
9 10
PRE FADER SOLO
GAIN
+20dB

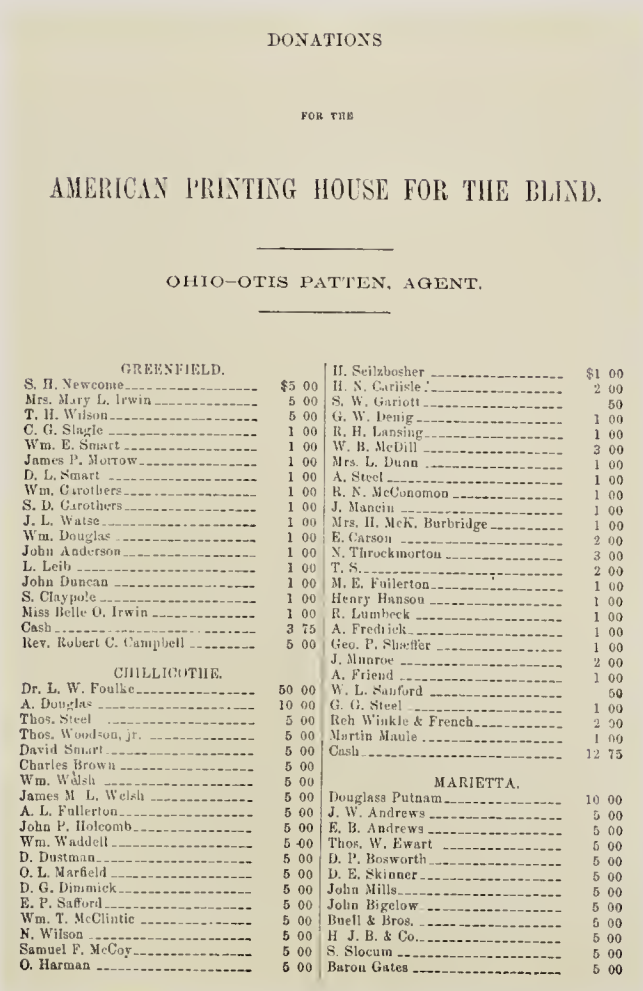

INPUT
SYNC

Chapter 4: Marketing, Fundraising, and Public Relations



Received of Otis Patten agent of the American Printing House for the Blind
Cash $ 4 10 20
Notes of various persons 70 00
Receipts for Salary & other expenses 438 25
$ 1 4 2 5 50
Louisville Oct 27 1866
H. Barrett Tr.

Receipt from APH Board Treasurer John Barret for fundraising activities of company agent Otis Patten, October 27, 1866



DONATIONS

FOR THE

AMERICAN PRINTING HOUSE FOR THE BLIND.

OHIO—OTIS PATTEN, AGENT.

GREENFIELD.

S. H. Newcome	$5 00
Mrs. Mary L. Irwin	5 00
T. H. Wilson	5 00
C. G. Slagle	1 00
Wm. E. Smart	1 00
James P. Morrow	1 00
D. L. Smart	1 00
Wm. Carothers	1 00
S. D. Carothers	1 00
J. L. Watse	1 00
Wm. Douglas	1 00
John Anderson	1 00
L. Leib	1 00
John Duncan	1 00
S. Claypole	1 00
Miss Belle O. Irwin	1 00
Cash	3 75
Rev. Robert C. Campbell	5 00

CHILLICOTHE.

Dr. L. W. Foulke	50 00
A. Douglas	10 00
Thos. Steel	5 00
Thos. Woodson, jr.	5 00
David Smart	5 00
Charles Brown	5 00
Wm. Walsh	5 00
James M. L. Welsh	5 00
A. L. Fullerton	5 00
John P. Holcomb	5 00
Wm. Waddell	5 00
D. Dustman	5 00
O. L. Marfield	5 00
D. G. Dimmick	5 00
E. P. Safford	5 00
Wm. T. McClintic	5 00
N. Wilson	5 00
Samuel F. McCoy	5 00
O. Harman	5 00
H. Seilzbosher	$1 00
H. N. Carlisle	2 00
S. W. Gariott	50
G. W. Denig	1 00
R. H. Lansing	1 00
W. B. McDill	3 00
Mrs. L. Dunn	1 00
A. Steel	1 00
R. N. McConomon	1 00
J. Mancin	1 00
Mrs. H. McK. Burbridge	1 00
E. Carson	2 00
N. Throckmorton	3 00
T. S.	2 00
M. E. Fullerton	1 00
Henry Hanson	1 00
R. Lumbeck	1 00
A. Fredrick	1 00
Geo. P. Sheffer	1 00
J. Munroe	2 00
A. Friend	1 00
W. L. Sanford	50
G. G. Steel	1 00
Reh Winkle & French	2 00
Martin Maule	1 00
Cash	12 75

MARIETTA.

Douglass Putnam	10 00
J. W. Andrews	5 00
E. B. Andrews	5 00
Thos. W. Ewart	5 00
D. P. Bosworth	5 00
D. E. Skinner	5 00
John Mills	5 00
John Bigelow	5 00
Buell & Bros.	5 00
H. J. B. & Co.	5 00
S. Slocum	5 00
Baron Gates	5 00

Printed fundraising report from the APH Annual Report, 1866

> If all the friends of the blind would concentrate their efforts, it seems to me a practicable plan.
>
> *Dempsey Sherrod, 1856*[53]

Pledges and Promises

Between 1857 and 1860, auxiliary boards collected funds for APH in several states and funding was appropriated by three state legislatures. Over $25,000 dollars was pledged. The Printing House collected its first operating funds in 1860, which enabled APH to order its first printing press. The funds came from private citizens in Mississippi and Kentucky—$1,000 from each state. Most pledges and promises, however, went unfulfilled in the wake of the Civil War. Although the Printing House collected only a fraction of pledges from the South, the money was generally used by the auxiliary boards to help blind people in their own states.

As word spread of its work, APH received support from a few state schools, which received books in return. To supplement funds raised by the state auxiliary boards and state government appropriations, the company hired agents. They traveled through nearby states, talking to community groups and philanthropists.

> I was acquainted with one or more persons in each place who would lend me their influence and aid and whose hospitality would save expense to the Printing House. On entering a town I first sought out the Editor and obtained a favorable notice in his paper. I next called on the pastors of churches and secured a similar notice from the pulpits of the place. I also obtained from each pastor a list of the names of each person in his church and congregation as would be likely to aid the Printing House by a donation.
>
> *Otis Patten,*[54] *company agent, 1866*

Although APH agents were met with great courtesy and vocal support, contributions were small and infrequent. "There seems to be a prevailing feeling, it may be said to be almost universal," Patten noted, "that the state ought to do all that is necessary to be done for the blind."[55]

From Talk to Action

As word spread about APH and its work, orders outstripped the company's modest ability to supply embossed books at cost. Federal support had long been discussed among educators of blind children. At their first meeting in 1853, the country's leaders in education of blind students organized an effort to secure a printing fund from Congress with little success.

Educators tried again at the 1876 meeting of the American Instructors of the Blind (AAIB) in Philadelphia. They directed a committee to plan for "cooperative action on the part of the members of this association, by which a subsidy may be requested from Congress for the purpose of facilitating the progress of printing for the blind."[56] APH Superintendent B.B. Huntoon was elected

chairman, and the committee drafted a bill to provide free books and tangible apparatus to blind students. In 1877, Representative Henry Watterson, editor of *The Courier-Journal*, introduced the bill to the 44th Congress of the United States, but the bill was lost in the disputes over the end of Reconstruction and never reached the floor.

Washington Comes to APH—President Hayes' Visit

The AAIB committee felt passionately that the needs of their blind students could only be met through federal funding. They continued to lobby members of Congress from their home states and urged their colleagues to do the same. Committee Chairman B.B. Huntoon was the kind of person who would take advantage of any opportunity to persuade someone of power and influence to support his cause.

In 1877, President and Mrs. Rutherford B. Hayes, made Louisville a stop on their "Triumphal March Through the Solid South." The entourage stopped at several schools, including the Kentucky Institution for the Education of the Blind. Dr. T. S. Bell, president of the school, welcomed them to "this expression of the munificence of the State toward her blind children." Bell gave a lengthy and flowery speech describing the education of the blind students. Halfway through his speech, Bell switched from talking about the capabilities of blind people to describing the work of the Printing House. He ended the speech with a thinly-veiled plea: "The states of Pennsylvania, New Jersey and Delaware co-operate with us in printing for the blind, but the literary wants of the blind are greatly beyond our power of supply."

The President's response was noncommittal. He told the audience that it was not the business of the "general government" to support these institutions, but that of the states. Yet, as he was winding down, President Hayes remarked, "These facts about your institution are, in a general way, known throughout the land and perhaps the world. The honor does not belong to Louisville or Kentucky alone. No, I think we may all share in it. It is an honor . . . that that can be accomplished in America which is accomplished here in Louisville."[57]

When Albert S. Willis, representative from the fifth congressional district of Kentucky, presented the bill to the Forty-Fifth Congress, the Congress voted in favor. "An Act to Promote the Education of the Blind" was signed into law by President Rutherford Hayes on March 3, 1879.

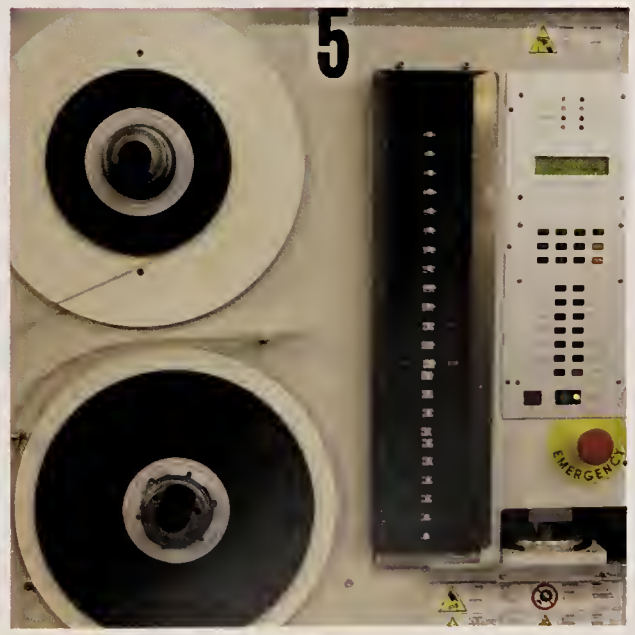
Congressman Albert S. Willis

An Act to Promote the Education of the Blind

> The want of experience and the great expense of manufacturing books and apparatus designed for the use of the blind render it impracticable for such an enterprise to be carried on by the separate States; while the demand is so small as to offer no inducement to private capital.
>
> *U.S. Senate Committee on Education and Labor, 1879*


XEROX
DOCUCOLOR iGEN3


SCATTERED CROWNS
CATTERED CROWNS
MASKING
CROWN COLLECTO


5

Congressman J. Swagar Sherley

The 1879 Act to Promote the Education of the Blind created a permanent appropriation for the purpose of "manufacturing and furnishing books and other materials specially adapted for instruction" of blind students of the United States and its territories. It was only the second law enacted by Congress to support people with disabilities. President Abraham Lincoln signed the first in 1864, a law creating Gallaudet College in Washington, D.C., a school for people with severe hearing loss.

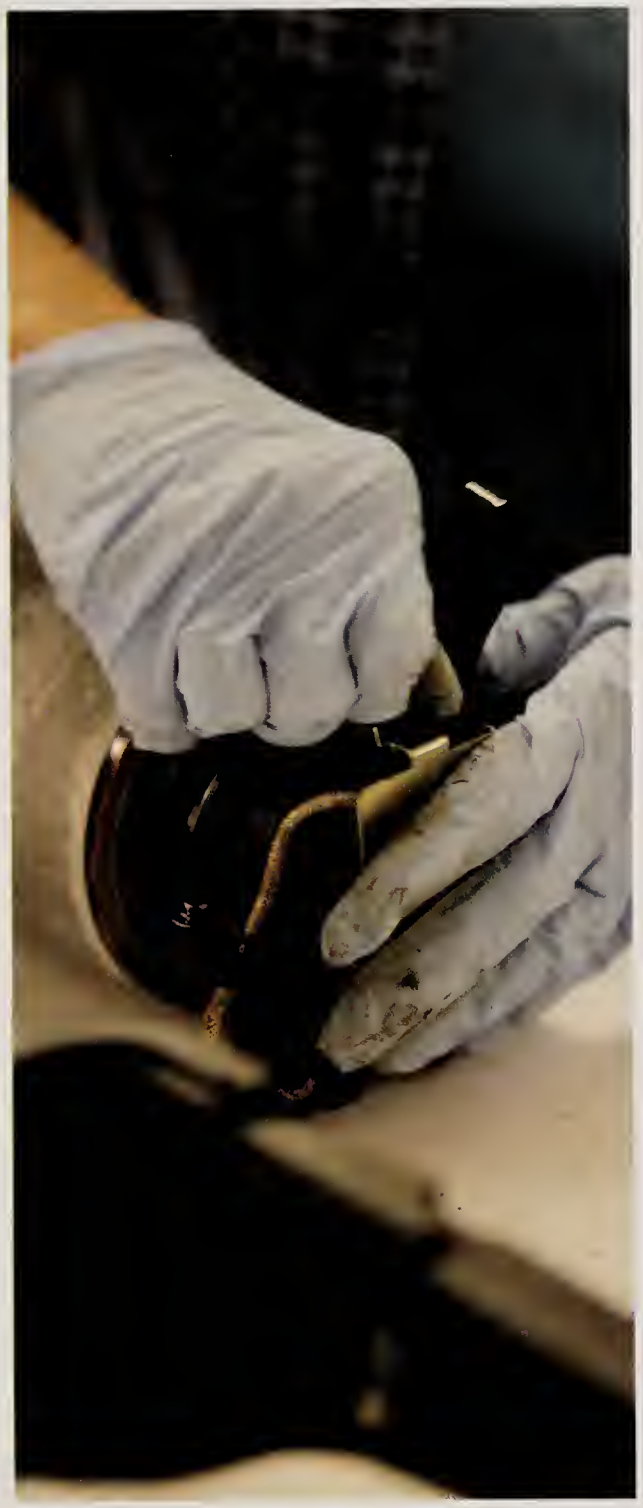
The Act provided $250,000 to be held in trust with annual interest, about $10,000, paid to the Printing House. It designated the superintendents of schools for the blind in the U.S. and its territories and the District of Columbia as trustees ex-officio. The ex-officio trustees were charged with administering the Act, which included oversight of the Printing House. The composition of the ex-officio board expanded through the years to include representatives of all of the organizations eligible for funding under the Act.

In 1906, Louisville Congressman J. Swagar Sherley convinced Congress to alter the funding method to a direct $10,000 annual appropriation.[58] Again in 1919, Sherley introduced a bill in Congress to increase the annual appropriation by $40,000. As the number of children increased over time, the appropriation continued to increase. Provisions of the Act required that materials supplied by these funds be unavailable commercially and/or that they be "manufactured at" the American Printing House for the Blind. The law also required that the money be used solely for manufacturing costs–labor and materials–not for buildings or equipment.

Federal Quota System

The program that funded textbooks and specially-designed educational aids through the Act was known as the Quota System. At its heart, the idea was simple. Specialized materials—paid from federal funds—were provided free through APH and its network of ex-officio trustees. The trustees were drawn from schools or agencies involved in the education or rehabilitation of blind people. As account administrators, they determined how funds were spent for children in their programs and conducted the annual census of eligible students. This annual registration determined which students were eligible for federal quota materials. To qualify, students must meet a legal definition of blindness and be enrolled in an organized educational program lower than college level.

In operation, however, the Federal Quota System was complex; as was the role the Printing House played in its administration. Because quota funding was awarded annually, APH staff calculated the amount needed by the nation's blind and visually impaired students for the coming year. APH made the request, and Congress recommended an appropriation amount that might, or might not be, what was requested. The final appropriation was divided by the number of eligible children to determine each student's "quota" for material from APH. The money was pooled to



create quota accounts for each involved agency. The agencies that held the accounts drew against their allocation to order educational materials from the Printing House.

Initially, federal funding for the program was fixed. As described above, the original act set aside a fund that provided $10,000 "from which to supply every public Institution for the Education of the Blind in the United States with embossed books and tangible apparatus, according to the number of its pupils." The second census, in 1880, provided $4.45 worth of materials to each of the 2,224 students attending schools in twenty-eight states. For the larger schools, the resulting quota account was substantial. The New York Institute, with its 232 students, received an allocation of more than $1,000.

It was a modest, but significant beginning. For the schools, it guaranteed access to products from APH; for the company, a steady source of income to produce books and tools unavailable on the open market. The annual appropriation remained unchanged for the next forty years. In 1920, it increased to $50,000, and grew in subsequent years as the student population rose. By 2008, the annual congressional appropriation to fund the quota exceeded $21,000,000 to supply the needs of more than 58,000 students.

Telling the APH Story

Public relations was not a priority for the first leaders at APH. Close relationships with the schools who bought most of the company's production guaranteed steady sales. Communicating the company's virtues to the wider community seemed pointless and possibly unbecoming for a hard-working philanthropy that received much of its funding from the taxpayers. When A.C. Ellis became superintendent in the 1930s, he introduced an intentional public relations program to APH for the first time. Annual reports that had been monotone exercises in spare language and brevity were transformed into magazine-style booklets complete with photography and pie charts. Ellis reported in 1936 that "a definite program of dignified and purposeful publicity was planned and carried out and a number of articles were published in leading newspapers and national magazines." For most of the twentieth century, public relations remained the sole responsibility of the company's superintendent.

Finis Davis continued the public relations program begun by Ellis. These were unstructured programs, but paved the way for a formal PR department. The company held a successful open house in 1949 and found that opening the doors to the community created public appreciation for the work of the company. Tours revealed the public's fascination with braille printing and recording processes and evolved into a regular program of factory tours.

Never before or since has APH had an opportunity to influence high levels of national government as it had in 1877 when President Hayes visited Louisville. There, Board President William Bullock took full advantage of the chance to promote APH. Although APH leaders have not

Preparing the mold for the APH floor model tactile globe, circa 1960

Andrew Cowan
(Filson Historical Society)

since spoken directly to the President, they have called upon national representatives and senators to promote the interests of APH. Representative Albert Willis was instrumental in the successful passage of the 1879 Act. When a revision to the Act became necessary in 1906, Board President Andrew Cowan and Superintendent B.B. Huntoon, accompanied by Congressman Swagar Sherley, called on the secretary of the treasury for advice. Cowan also met with the chairman of the House Ways and Means Committee.

In most years, however, APH had little direct contact with Congress. The appropriation request was submitted and APH learned about the amount when the budget had been approved. APH was prompted to reconsider this approach in 1994 when Congress proposed to reduce the APH appropriation by 40%. This would have severely curtailed APH production and services, threatening the welfare of students across the country. The proposed cuts motivated APH to send Vice President Gary Mudd to visit key members of Congress.

APH had established a Public Relations Department in 1992 to promote public awareness of APH. Mudd was named director in 1994. Blind since the age of twelve, Gary Mudd was the first visually impaired vice president in APH history. With his dog guide, Heathcliff, Mudd found that many government officials were unaware of the company's impact on the lives of blind and visually impaired students in their own districts. To remedy the problem, he initiated a program of educational meetings. Mudd and Heathcliff became the public face of the Printing House in Washington. APH staff met with members of key committees, sharing the work of the Printing House and how the appropriation affected children across the nation.[59] This initiative resulted in a significant improvement in communication between the federal government and APH.

The Gift of Literacy

Throughout APH history, generous individuals and charitable groups have been touched by the idea of giving blind people books they could read by themselves. The Society for Printing Evangelical Religious Literature for the Blind, for example, raised funds that APH used for embossing religious works in the 1880s. An unusual source of funding was the Crosby Art Lottery, which gave APH $1,800 to print an edition of *Robinson Crusoe* in the 1870s. The lottery had enlisted the services of blind children to conduct their prize drawings, and funded the book as a token of gratitude.

The annual reports of the early twentieth century often listed individuals who provided funds to print a specific book. One of the most interesting was Nina Rhoades, a blind author of children's books. She financed the tactile printing of several of her own books and those of other authors including Helen Keller, who was a childhood friend.


Cassiopeia
Polaris

R.C. Ballard Thruston
(Filson Historical Society)

An Endowment Fund

In 1934, APH trustees recognized the need for an endowment fund to provide books and apparatus to blind adults outside the federal quota system.[60] Board member Ballard Thruston initiated the endowment fund with a gift of $1,000. The company used direct mail and advertisements in *Reader's Digest* magazine to remind potential donors to "Remember the American Printing House for the Blind in your will." APH soon received bequests from all over the country. The endowment provided funding for hundreds of special projects.

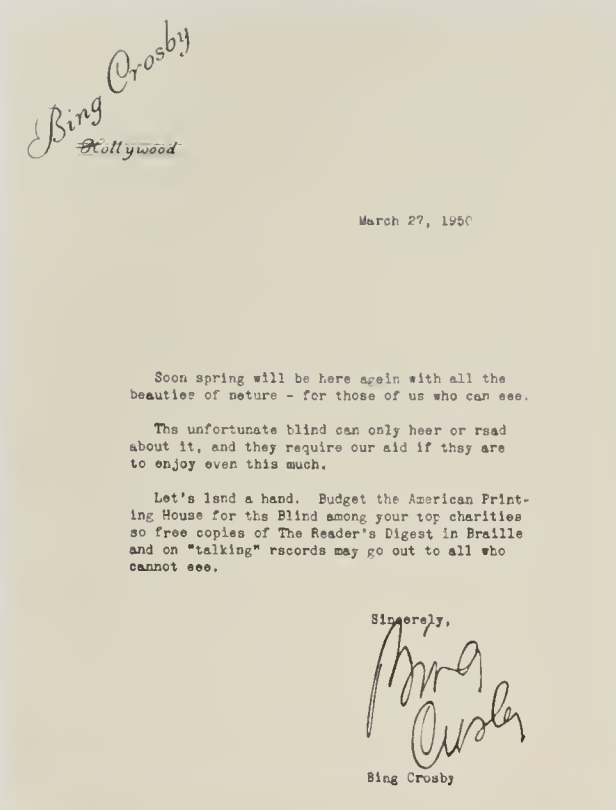
The Reader's Digest® Fund

At the 1935 APH annual meeting, the trustees launched a nationwide campaign to raise funds to provide free subscriptions to the braille edition of the *Reader's Digest®*. The *Digest*'s publisher, DeWitt Wallace, was most enthusiastic about the braille edition and supportive of the fund drive. By 1936, circulation had climbed to 2,000 subscriptions. With a long waiting list for free subscriptions, APH continued the fund drive.

APH introduced the Talking Book edition of the *Reader's Digest®* in 1939 and included it in the direct-mail fundraising appeals. The *Newsweek®* Talking Magazine Fund followed in 1959. The Extension Fund, established in the 1940s, received undesignated donations from the direct mail solicitations. The Extension Fund paid for the expansion of manufacturing and office space over the next sixty-plus years.

Reader's Digest, *Braille Edition promotional display, 1939*


Someplace
mckissack · jerry



Bing Crosby
~~Hollywood~~

March 27, 1950

Soon spring will be here again with all the beauties of nature - for those of us who can see.

The unfortunate blind can only hear or read about it, and they require our aid if they are to enjoy even this much.

Let's lend a hand. Budget the American Printing House for the Blind among your top charities so free copies of The Reader's Digest in Braille and on "talking" records may go out to all who cannot see.

Sincerely,

Bing Crosby

Bing Crosby was one of several national celebrities who lent their names to APH direct mail fundraising appeals in the 1940s and 50s

DEAR ABBY: Your recent column on how to discourage "junk mail" disturbed me greatly. The American Printing House for the Blind relies on direct-mail fund-raising to provide numerous services to the visually impaired. Fund-raising costs have soared in the past few years, and the last thing we need is a large number of people returning our postpaid envelopes filled with everything except money.

Since 1928, the American Printing House has produced and distributed the Braille Reader's Digest with funds donated by the public. In 1939, the recorded edition was begun. Every month, we ship over 20,000 copies to libraries serving visually and physically handicapped patrons, free. Weekly, over 11,000 copies of the recorded edition of Newsweek are mailed to reading handicapped patrons across the country, free, because of contributions received by mail. Funds raised from the public buy the buildings, equipment and tools we use to produce school materials provided to students under the federal Act to Promote the Education of the Blind, saving the federal government significant sums of money.

Public contributions to hundreds of organizations like ours fill real needs that exist among a variety of groups of people. Without this support, a multibillion-dollar burden would fall on local, state and federal government.

Opening a few envelopes is a small price for all of us to pay for the significant contributions of philanthropic organizations to our society.

CARSON Y. NOLAN, PRESIDENT,
AMERICAN PRINTING HOUSE FOR THE BLIND

DEAR MR. NOLAN: Thank you for setting me straight. A thousand apologies.

APH President Carson Nolan responded to some unwanted advice from national columnist Abigail Van Buren in 1986

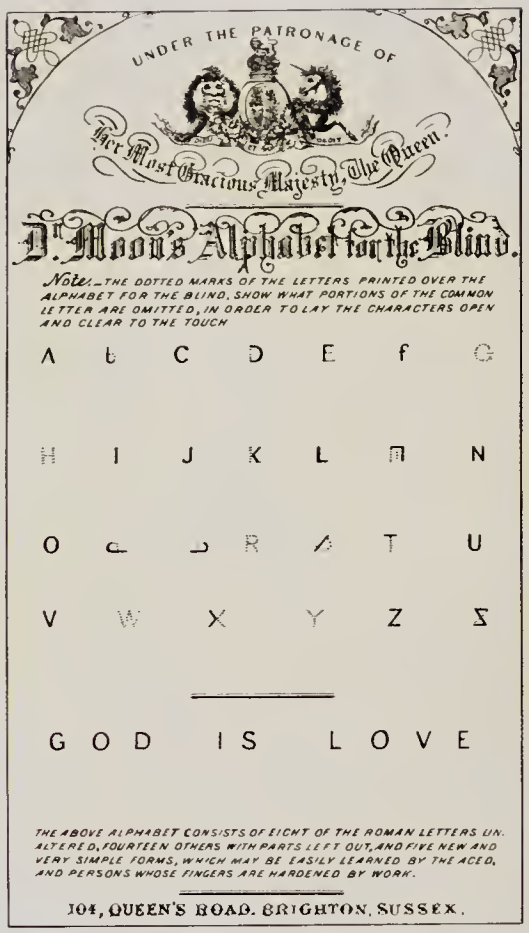
Agents and Celebrities

In the 1860s, APH hired agents to raise funds. The company re-instituted the practice in the 1940s, when it employed Mrs. A. Everett Skinner as a field representative. From her home at the Allerton House in New York City, Agnes Skinner solicited funds throughout the country. The Printing House also called upon socialites and celebrities to lend their names to letters requesting donations. In the late 1940s, the Printing House received sponsorships and endorsements from Herbert Hoover, Cordell Hull, Bing Crosby, Mrs. Emily Post, and Mrs. J. D. Winsor. In the 1950s, APH gave the mail solicitations a personal touch by hiring home-based workers who typed the letters individually and applied stamps by hand.

The Department of Development

The APH Department of Development, established in the 1980s, grew out of the earlier Magazine Department. As APH added other projects to direct mail solicitations, the department assumed the list maintenance and financial records for all fundraising efforts. It was one of the first APH departments to computerize, automating the maintenance of donor files and magazine subscription lists. By 2008, Development oversaw nationwide direct-mail fundraising, memorial contributions, foundation and corporate grants, bequests, and charitable gift annuities.

In addition to federal funding and charitable donations, the Printing House developed other important sources of income. The company produced specialty products for corporate customers looking to provide accessible information to their customers. These items included menus, brochures, and annual reports in braille and recorded formats. APH also contracted with private and government agencies, such as the Internal Revenue Service, to produce their complex materials in alternate formats. The National Library Service for the Blind and Physically Handicapped (NLS) became the largest single source of contract work in the 1930s. APH produced braille and recorded books for distribution to NLS patrons.


UNDER THE PATRONAGE OF
Her Most Gracious Majesty, The Queen.

Dr. Moon's Alphabet for the Blind.

Note:—THE DOTTED MARKS OF THE LETTERS PRINTED OVER THE ALPHABET FOR THE BLIND, SHOW WHAT PORTIONS OF THE COMMON LETTER ARE OMITTED, IN ORDER TO LAY THE CHARACTERS OPEN AND CLEAR TO THE TOUCH

A b C D E f G

H I J K L M N

O P Q R S T U

V W X Y Z &

GOD IS LOVE

THE ABOVE ALPHABET CONSISTS OF EIGHT OF THE ROMAN LETTERS UNALTERED, FOURTEEN OTHERS WITH PARTS LEFT OUT, AND FIVE NEW AND VERY SIMPLE FORMS, WHICH MAY BE EASILY LEARNED BY THE AGED, AND PERSONS WHOSE FINGERS ARE HARDENED BY WORK.

104, QUEEN'S ROAD, BRIGHTON, SUSSEX.

Moon Type was a tactile system made up of lines and curves reminiscent of roman letters. It was developed by a blind Englishman, Dr. William Moon, in 1845. The system was unique in that the reader's finger did not leave the page because the lines of Moon Type were read from left to right and from right to left, alternately. APH embossed two books in Moon Type in 1876.

If anyone invents a new system of printing for the blind, shoot him on the spot!

Michael Anagnos, circa 1918[61]

The first tactile book printers took what seemed to be the obvious way to make books legible for blind readers. They looked at traditional print, worked out how to raise the letters, adapted their forms, and made a book that looked like a book. When Haüy produced the first work that blind people could read by touch in France in 1786, he used a modified version of the roman alphabet used in all Western European languages. Embossed books based on raised letters became so entrenched as the accepted format that there was a struggle for acceptance when more efficient point systems were invented.[62]

There were several interpretations of raised roman letters (also called line letter or line type) in early books. The most popular system was called Boston Line Letter or simply Boston Line. Composed of angular letters without descenders, it was developed by Samuel Gridley Howe, Director of the New England Asylum for the Blind (Perkins School). The first book in Boston Line was *Acts of the Apostles*, embossed in 1834.

The Printing House produced its early books in Boston Line.[63] The company announced in 1875 that it had "at a large expense, a new font of type cast" with improvements made in consultation with Howe and other educators. The new font changed "five or six letters of the alphabet that blind children often confuse." APH leaders proclaimed their new font "the most perfect type ever made for the blind."[64]

Point Systems

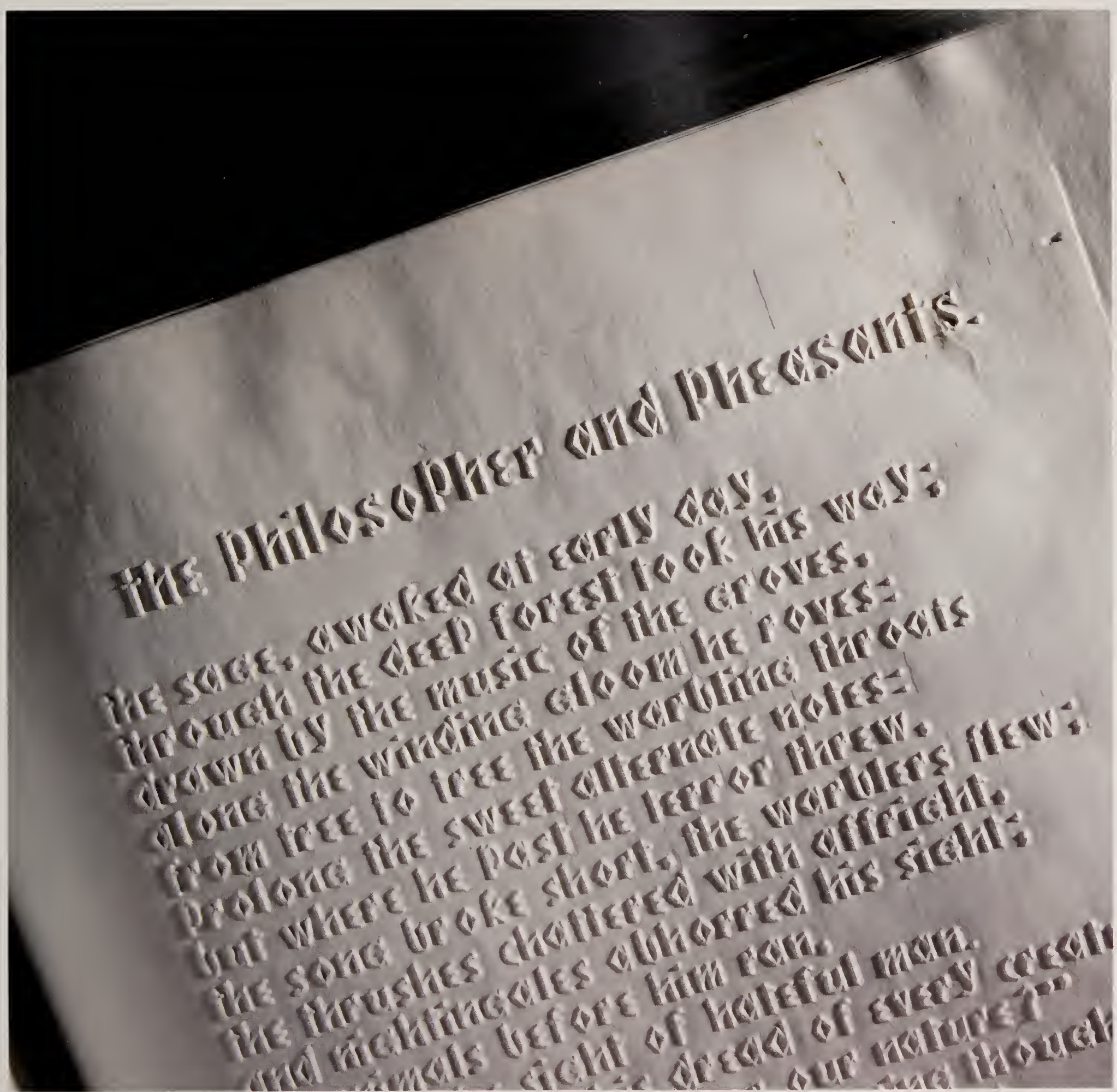
No teacher who knows what our schools for the blind were doing fifteen years ago and what they are doing today will fail to mark how completely the introduction of the point system has changed the cumbrous methods of the past.

B.B. Huntoon, 1886[65]

No matter what advantages claimed for the roman systems, they had one critical flaw—they could not be produced by hand. Boston Line offered no tactile equivalent to handwriting. Point systems were tactile alphabets composed of raised dots representing letters, numbers, and punctuation that were easier to read tactually but could be written by hand.

New York Point

Although the braille point system used in modern times was introduced in 1829, it did not catch on immediately, even in Louis Braille's homeland. Another dot system, New York Point, was widely used



Page embossed in raised letters from one of the first books produced by the American Printing House, "Gay's Fables," 1869

in the U.S. through the 1920s. It was invented by William Bell Wait (1839–1916), head of the New York Institution for the Blind. Wait originally promoted braille, but later devised a variation he claimed had all the advantages of braille and none of its problems. The system was two dots high and of variable width. To save space, the most frequently used letters were assigned the fewest dots.

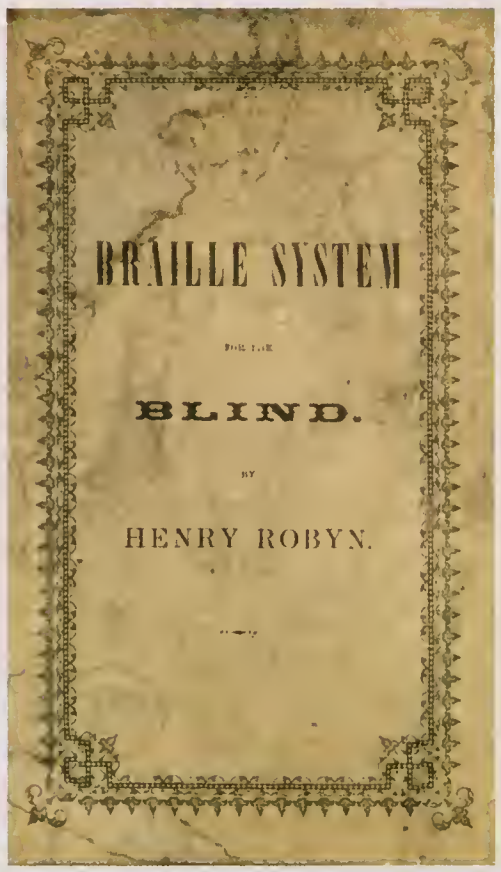
By 1870, New York Point was widely accepted and used, along with Boston Line, in all but a few of the country's schools for the blind. In 1874, APH embossed its first books in New York Point; *A System of Writing and Printing Music* by William Wait and *The Story of Rab and his Friends* by John Brown. In 1882, the Ex-officio Trustees of APH directed the company to devote half its federal subsidy to books in New York Point and the rest to Boston Line.

APH catalog offerings in New York Point climbed to over 1,500 literary, textbook, and music titles at the peak of its popularity. As braille became more widely used, however, New York Point declined. By the 1920s, few schools were teaching it. The Printing House continued to honor special requests for books in New York Point into the 1940s.

Braille

The system of raised dots known as braille was named for its creator, Louis Braille (1809–1852). Braille published his system in 1829 at the school for the blind in Paris, France. The braille system was revolutionary for its simplicity. The two-column cell was three dots high. The resulting six dots could be arranged in sixty-three different patterns, allowing for single cell punctuation marks, conjunctions, and common letter combinations.

The Missouri School for the Blind became the first American school to formally teach the system in 1860. Henry Robyn, the school's music teacher, supervised its print shop and wrote a handbook promoting the braille system.[66] Other schools remained loyal to Samuel Gridley Howe and his Boston Line. Many members of the American Association of Instructors of the Blind, however, were influenced by Dr. Wait to teach his system, New York Point.



The braille system, despite early proponents such as Henry Robyn in Missouri, did not become popular until the twentieth century

The War of the Dots

In 1878, a teacher at the Perkins School, Joel W. Smith, came up with an "improved" point system that he claimed combined the best features of New York Point and braille. He called it "Modified Braille," but the name was changed to "American Braille" in 1892. APH used American Braille to produce the company's first braille books in 1893. Most of the APH ex-officio trustees, however, were advocates of New York Point, and they made certain that the federal appropriation was used to produce books in their preferred system. Braille promoters were just as determined to tilt the balance of tactile book production toward their system, and a debate ensued.

As a braille advocate, Helen Keller condemned New York Point's major weakness—what New York Point foes called its "illiteracy." Because of the system's awkward capitalization and

Helen Keller
(American Foundation for the Blind, Helen Keller Archives)

punctuation signs, most New York Point books were published without them. Critics charged that the Wait system taught incorrect English to blind children.

> I am sure that in all important respects American braille is superior to New York Point because it meets completely the needs of capitalization, punctuation, legibility and physical ease of reading.
>
> *Letter from Helen Keller to A. Emerson Palmer, Secretary of the New York Board of Education, 1909.*[67]

In the 1910 annual meeting of the APH ex-officio trustees, braille advocates proposed that 40% of federal funds be used to emboss books in American Braille. This would be fair, they reasoned, to the 40% of students in schools for the blind who were braille readers. After a passionate debate, the resolution in favor of American Braille carried by one vote.

Printing House Superintendent B.B. Huntoon was on the losing side of the debate. He held sincere educational reasons for his support of New York Point, but he was also aware of the effect on production at APH. Huntoon had purchased six New York Point stereotypers in 1898 and his first and only braille stereotyper in 1906. Whatever his reservations, there was no going back: Huntoon ordered the necessary braille stereotype machines and kept the presses in motion. The trustees' endorsement of braille signaled the beginning of the end of New York Point.

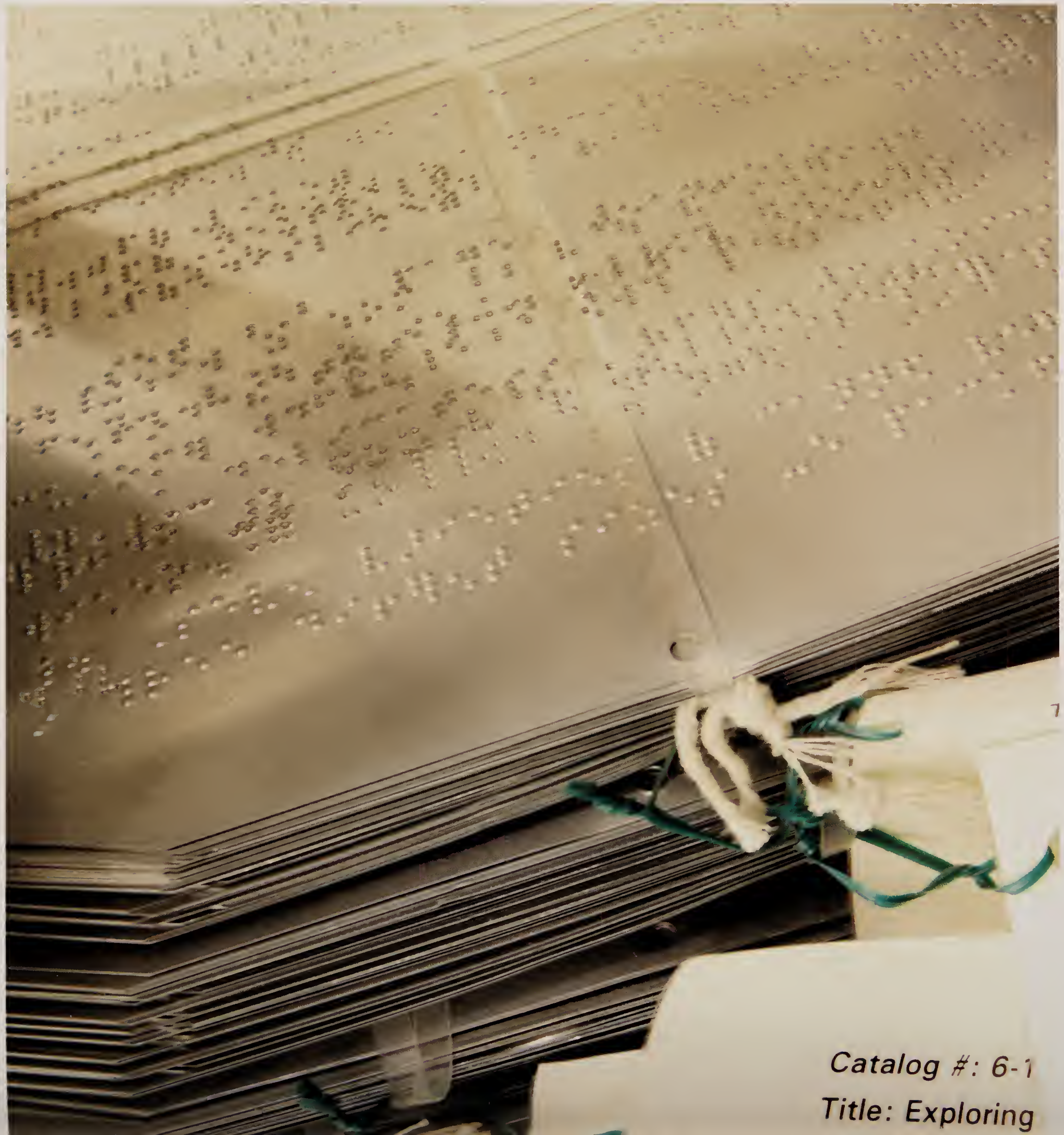
As the Printing House was increasing braille production, studies by the Uniform Type Committee were underway to adopt a standard system with other English speaking nations.[68] Unable to negotiate a compromise with leaders from Great Britain, the committee adopted a version known as Revised Braille Grade One and One-Half in 1918. Printing House trustees resolved that Revised Braille would be the only system used for their textbooks, and it remained the APH standard for the next fourteen years.

In the late 1920s, the American Foundation for the Blind renewed its study of competing versions of the braille code. AFB Director Robert Irwin urged both sides to reconsider the advantages of a uniform braille code for the English-speaking world. In 1932, British and American delegates finally agreed on Standard English Braille Grade Two. The War of the Dots was over.

Robert Irwin
(American Foundation for the Blind)

The First Books: Building the Catalog

> Deprived of so many of the enjoyments that are ever open to the seeing, the Blind need . . . the aid and comfort which books afford. Shut in from the enjoyment of all visible beauty. . . they prize the more highly the beauties of literature. [Many] have read again and again all that has been printed for them, and now they earnestly ask for more.
>
> *APH Board of Trustees, 1860*[69]



Catalog #: 6-1

Title: Exploring

Deciding the first books to produce in tactile form was very much like choosing which books to have when marooned on a desert island. The first printers followed the spirit of their time and embossed inspirational and religious books. *The Gospel According to St. Mark* was the first book embossed for blind readers in the U.S. *St. Mark* reflected the renewed interest in Christianity and accompanying social activism of the reform movement known as the Second Great Awakening (1800–1830). Three organizations that published and distributed religious literature greatly influenced the early publishers of books for blind readers. They were the American Bible Society, founded in New York in 1816; the American Sunday School Union, founded in Philadelphia in 1817; and the American Tract Society, founded in New York in 1825.

These organizations distributed publications that focused on moral conduct, good citizenship, and Bible doctrine. The tactile print shops in Boston and Philadelphia selected some of these publications to emboss for their students; others were funded by the religious publishers.[70] Raised print offerings in the 1830s and 1840s were dominated by individual books of the Bible, hymns and prayer books, and later, text books in geography, history, spelling, grammar, etc. In 1842, The Perkins Institution in Boston published *The Bible, Containing the Old Testament* in six volumes and *The New Testament* in two volumes. Printed in Boston Line, these volumes were highly abridged. There were no popular fiction or children's books until the Virginia Institution for the Deaf, Dumb, and Blind published the *Blind Child's Story Book* in 1857.

TREASURER'S REPORT.

Balance on hand December 31st, 1875	$2,824 28
Received from State of Kentucky	2,000 00
Received from State of New Jersey	300 00
Received from H. L. Hall	70 22
Received from sale of books (872)	1,423 71
Total	$6,618 21
Expenses in 1876	5,752 20
	$866 01

LIST OF BOOKS *published and for sale by the American Printing House for the Blind, Louisville, Ky.*

Multiplication tables, by the 100	$2 00
Alphabet sheets, by the 100	50
New York Point Alphabet sheets, by the 100	1 00
Writing cards, by the 100	8 00
Dictionary of Musical Terms	3 00
Life and Beauties of Shakspeare	3 00
Etymology—a class-book	3 25
Select Hymns	2 50
Fables for Children	1 50
Gay's Fables	1 50
Virgil's Æneid (first six books, Latin)	3 50
Midsummer Night's Dream	2 00
Macbeth	2 00
King Lear	2 50
Arithmetical Examples	3 50
Washington Before the Revolution	3 50
Guyot's Physical Geography	4 00
Robinson Crusoe, 3 vols.	10 50
Selections for Declamation	3 50
R. H. Proctor's Wonders of the Firmament	3 50
A Primer and the first three of Butler's Readers, in eight parts, each 50 cents	4 00
Colburn's Mental Arithmetic, 2 vols.	3 00
Simple Susan and Lazy Lawrence	3 00
Guide to the Dissected Map of Europe and the United States	2 00
New York Point System of Musical Notation	1 00
Rab and His Friends (New York Point)	1 00
Kill from the Town Pump, by Nathaniel Hawthorne (New York Point)	75
Feathertop, by Nathaniel Hawthorne (New York Point)	1 25

The 1876 list of APH books revealed an ever expanding line of literature, school texts, and music

Story Books for Children

When the first book came off the APH press in Louisville in 1866, only about one hundred raised print book titles had been produced anywhere in the United States. Tactile books were rare. Printing House Superintendent Bryce Patten may have selected *Fables and Stories for Children* as APH's first book because there were so few embossed children's books, or perhaps he wanted to test the new press with a short book. Patten embossed classic works of literature, music, and textbooks that had not been produced elsewhere; all were embossed in Boston Line.

The company gradually increased the number and variety of its titles, adding books on geography, mathematics, music, history, and science; works of literature; books of the Bible; even *Politics for Young Americans*. In addition to nationally-known literary figures, APH published its own former agent Morrison Heady's *Washington Before the Revolution* in 1873. Noble Butler was a University of Louisville professor whose grammar books were standard texts in schools all over the country. APH made Boston Line versions of *Noble Butler's New Reader* (1874) and *Butler's English Grammar* (1876).

> I am now the proud owner of about fifteen new books, which we ordered from Louisville. Among them are Henry Esmond, Bacon's Essays and extracts from English Literature.

> Perhaps next week I shall have some more books, *The Tempest*, *A Midsummer Night's Dream* and possibly some selections from *Green's History of England*. Am I not very fortunate?
>
> *Helen Keller, 1900*[71]

The 1858 Kentucky Charter directed the APH Board of Trustees to request an annual "wish list" of books from superintendents of schools for the blind. The Printing House embossed the books that received the most "votes" from the superintendents. After funds became available in 1879 under the Act to Promote the Education of the Blind, the book selection procedure was revised. A committee of superintendents submitted a list of proposed books to the schools, and each school selected one book to be produced. In subsequent years, a committee of ex-officio trustees selected the works furnished under the Act. By the 1930s, the Publications Committee approved a list of books, but titles were produced only when APH received enough orders to justify the cost of publication.

The Publications Committee evolved over the years, changing to meet the needs of visually impaired students who attend public schools.[72] The Accessible Textbook Initiative Collaboration (ATIC), a textbook project requested by the Publications Committee, established a radically new process for handling braille transcription and production. ATIC, which became the Accessible Textbooks Department in 2007, provided traditional "hard copy" textbooks on demand.

APH Publication Highlights

In the 150 years of Printing House history, three landmark publications stand out. *The New York Point Bible, Reader's Digest®* Braille Edition and the *World Book Encyclopedia* in braille were historical milestones, notable for their size, scope, and, in the case of *Reader's Digest®*, longevity.

The American Bible Society received a bequest to emboss the *Holy Bible* in New York Point and chose the Printing House in 1895 because it "was the only house that could do the work." Eleven employees worked ten months to edit, transcribe, and emboss the 1,839 pages. Bindery staff saddle stitched and leather-bound eight volumes of the Old Testament and four volumes of the New Testament . The total cost was $3,000, but the sets were provided far below cost.[73]

> It helps me to capture the vibration of life in the heart of mankind and in the great world of waters, lands, and skies. Across its pages as on a stage move countless personages and scenes...and there is room for every fair dream, every high purpose.
>
> *Helen Keller, writing in praise of the braille edition of Reader's Digest®*

In 1928, APH introduced the first national magazine available in braille—the *Reader's Digest®* Braille Edition. The announcement was greeted with enthusiasm by blind readers and inspired the

Embossing plate from the company's tactile cardboard atlas, circa 1895

Checking a magazine cover embossed on one of the company's early cylinder presses, circa 1930

The Printing House superintendent, the late Dr. E.E. Bramlette, wanted to publish a magazine of general interest but he hadn't the money. Then during an airplane trip in 1928, he picked up a copy of The Reader's Digest® and thought it just the magazine he had in mind. He obtained permission to print it in braille without charge. The magazine started its practice of soliciting contributions from readers so that the braille edition could go free to anyone who asked for it. Hunger for such reading was so great that when Bramlette announced this news at a convention of the blind, the assembly cheered.[75]

generosity of donors throughout the country.[74] The *Matilda Zeigler Magazine*, the first braille magazine to be published for blind readers, dates to 1907. The braille *Reader's Digest®*, was different, however, providing blind readers a popular magazine that everyone else was reading.

The braille edition of the *World Book Encyclopedia* produced at APH was the first major reference work for people with vision loss and the largest braille project ever undertaken. In 1959, the publisher of *World Book*, Field Enterprises Educational Corporation, and the Field Foundation funded the production. Foundation President Adlai Stevenson presented a check for $115,500 to emboss and bind 250 complete sets. The first 145-volume editions were distributed to schools and libraries specializing in education for blind students. Dr. William H. Nault, *World Book* publisher, said, "Producing the Braille Edition is one of the greatest things this Company has ever done. It has made an impact on the lives of so many people that it justifies all the time and money it took."[76]

A National Library for Blind Adults

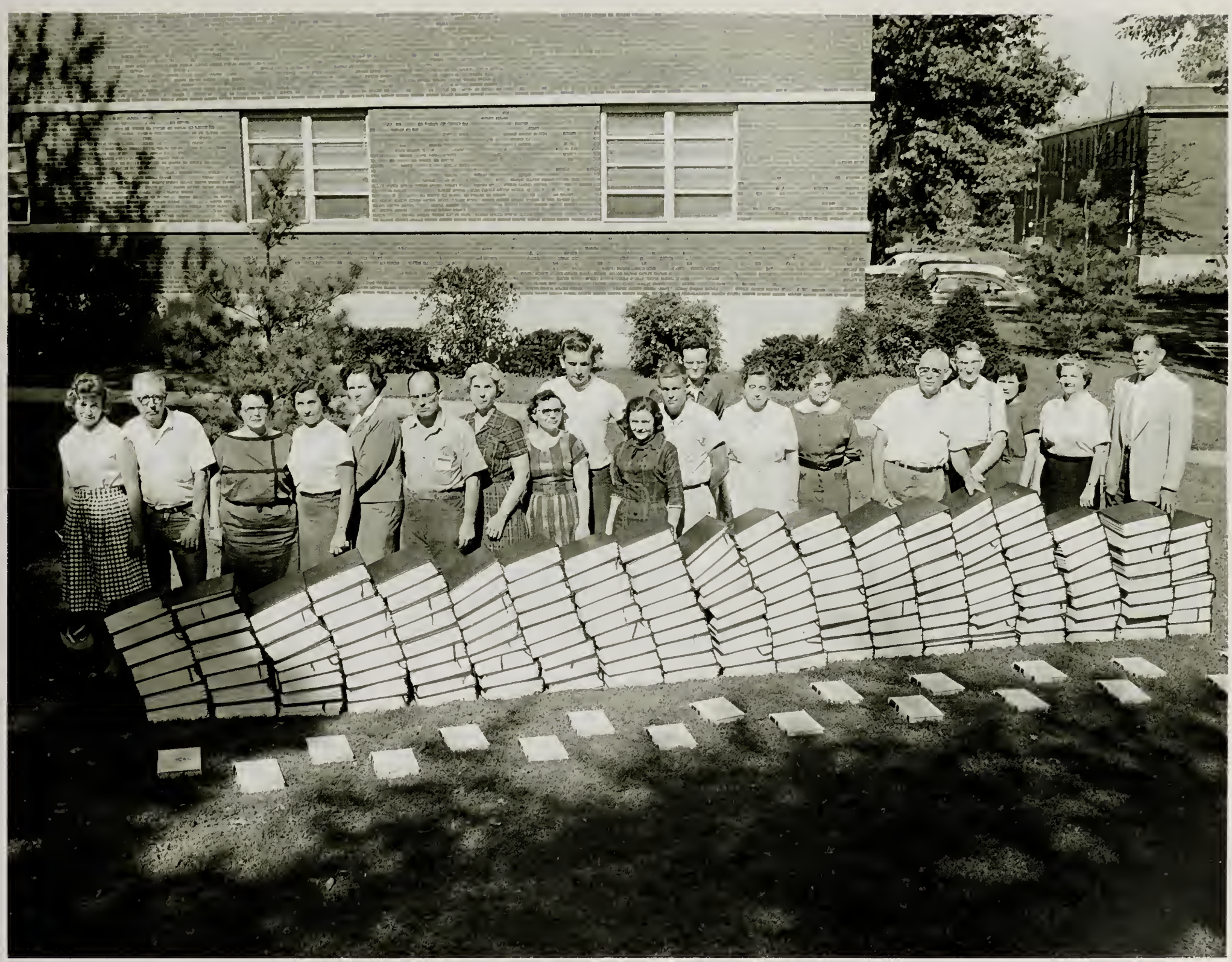
When the new Library of Congress building opened in 1897, a highlight was the reading room for blind people. It provided patrons with books and music embossed in tactile formats. In 1913, Congress directed APH to provide the Library of Congress with a copy of each book embossed under the Act to Promote the Education of the Blind. While the Library of Congress was of great benefit to readers in the nation's capital, there was no program to supply embossed books nationwide. Thirty-four years later, the Pratt-Smoot Act of 1931 authorized the Library of Congress to provide embossed books to blind adults to be distributed nationwide through regional libraries. This program, named the National Library Service for the Blind (NLS), continues to provide these services.[77]

Reading room for the blind at the Library of Congress, 1903 (Scribner's Magazine)

Pratt-Smoot benefited APH and consumers immediately. In 1932, the company received its first order of forty-five titles from the Library of Congress Braille Book Project. Adult readers could enjoy current best sellers in addition to the classic and religious braille literature of the past.

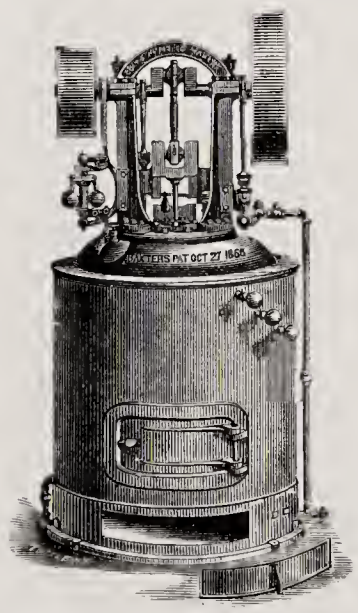
Production Tools and Machinery

> Louisville has a print shop such as is found nowhere else in the United States. Its books for elementary grades weigh fifteen pounds; its type setting machines have only six keys as compared with the 96-odd combinations possible in the average type setting machine, and a hammer and nail punch are the tools of the proof reader.
>
> *Racine Journal-News, 1922*[78]



APH staffers line up behind the braille edition of the World Book Encyclopedia, with production chief Virgil Zickel on the far right. The print versions of the encyclopedia lie in the foreground.

Stephen P. Ruggles (1808-1880) was employed as a printer for Dr. Samuel Gridley Howe at the New England Asylum for the Blind (the Perkins School) in Boston. He built the school's first press in 1835. Ruggles described this flat pressure press as "very powerful and of an entirely new construction," producing the desired "sharp and permanent relief." He produced an improved model for APH in 1863. Ruggles patented a platen jobber--a press designed for short runs using a clamshell mechanism--in 1851. In later years, Ruggles and Howe had a long-running public feud, each taking credit for the success of the Perkins print shop.
(Perkins School for the Blind)



Baxter steam engine
(Hagley Museum & Library)

The very first tactile book for people with vision loss was typeset and printed in 1786 by Valentin Haüy's students in Paris, France. Haüy used a cylindrical press, dampened paper, and raised type. Blind students set the printing type in the traditional way, except the type was a specially-cast, right-reading type. A damp sheet was placed over the page of type and pounded with a mallet. Haüy wanted sighted teachers to be able to read the book, so he inked the raised letters. In order to stiffen the pages, and perhaps to save space, Haüy glued the backs of the embossed pages together. This first tactile book was influential; a copy was owned by the Printing House at least as early as 1912, and probably much earlier.

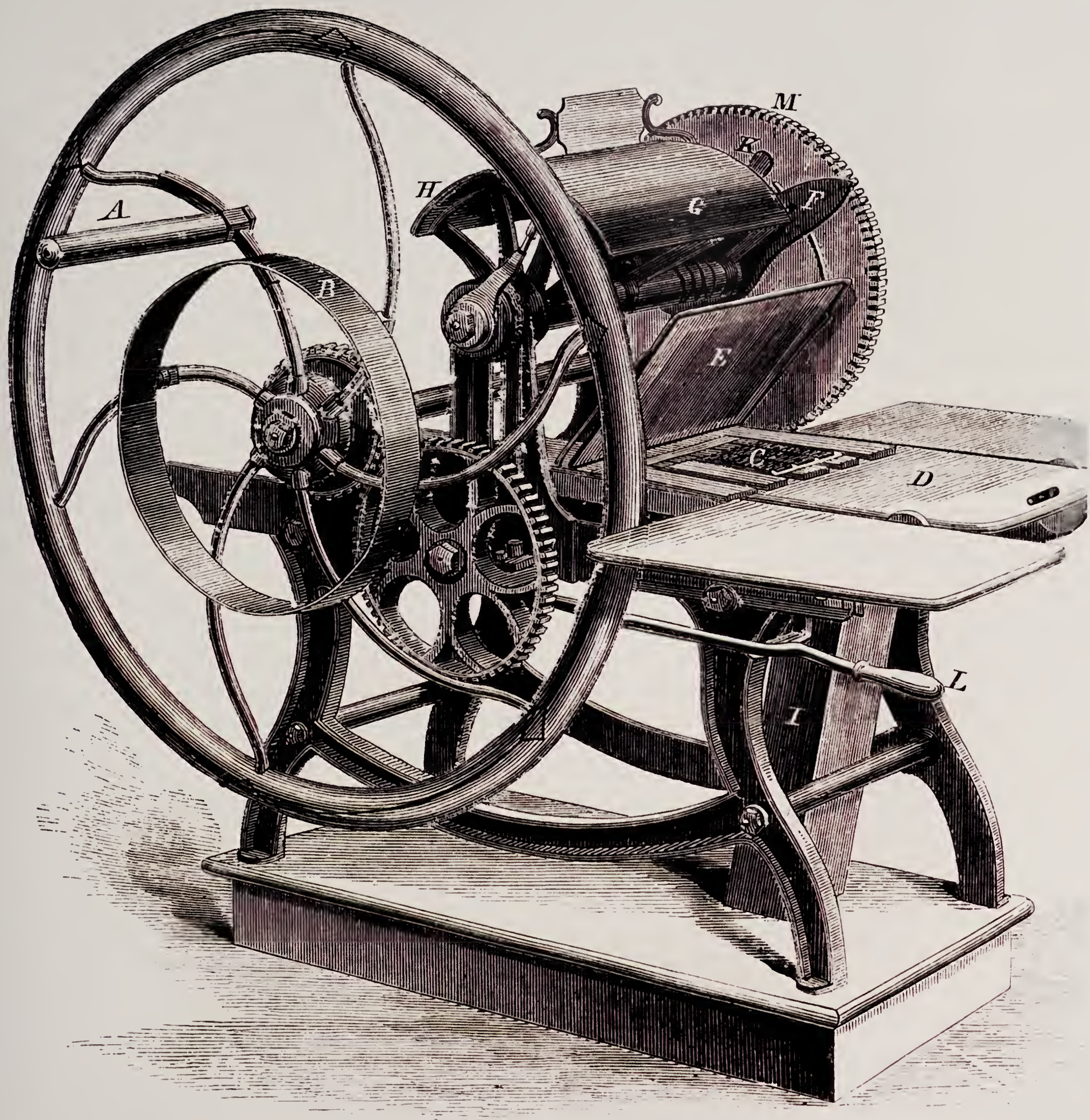
The New England Asylum for the Blind (the Perkins Institution) and the Pennsylvania Institution for the Instruction of the Blind were first in the U.S. to set up print shops and emboss materials for blind children and adults. The press of the Virginia Institution for the Blind embossed about twelve volumes in raised type in 1852. The North Carolina and Louisiana Institutions for the Blind also had presses, and the Missouri Institution for the Blind was embossing braille by the 1860s. With the exception of the New England Asylum, the others printed materials primarily for their own students.

Embossed Printing at the American Printing House for the Blind

At its founding in 1858, the American Printing House for the Blind was a printing house in name only. It lacked the single basic piece of equipment—a printing press. In 1860, Superintendent Bryce Patten ordered a press from Stephen P. Ruggles of Boston. Ruggles built the "cylinder press" especially for the Printing House and described it as being larger and more powerful than the earlier embossing presses he had developed. He delivered the press to Louisville in 1863 after exhibiting it at a meeting of the newly incorporated Massachusetts Institute of Technology (MIT).

Patten installed the press in the basement of the Kentucky School for the Blind. His first efforts failed "to give satisfactory impressions [and] caused most serious and embarrassing delay." Patten's requests for help from Ruggles went unanswered, so he adjusted the press himself and began printing. By 1872, Benjamin Huntoon had connected the Ruggles press to a Baxter steam engine, a gift from the Colt's Arms Manufacturing Company.[79]

> The Baxter steam engine, that runs our press, has given entire satisfaction. It uses less than two buckets of coal a day, and has needed no repairs during the year, though running regularly every day. And while ours is the only printing establishment for the blind in the world, where steam power is used to run the press, the results have proved its efficiency and economy.
>
> *W.F. Bullock, 1874*[80]



Press designer Stephen P. Ruggles of Boston built this embossing press for APH in 1863 (Scientific American)

Kelly Press
In 1933, APH's machine shop designed attachments for this press to use it for both braille embossing and ordinary ink printing. It became possible to emboss an issue of a braille magazine in the morning and, in the afternoon of the same day, print an ink edition of a catalog. This was the first time a press had been adapted for printing both ink and braille.

In 1879, APH trustee Walter N. Haldeman, publisher of the *Louisville Courier-Journal*, suggested hiring press maker John Spencer to build a new press for APH. Spencer's double cylinder press employed flexible stereotype plates developed at APH for use in their Boston Line Type printing. It produced 120 pages per minute compared to fifteen on the old press. Thirty years later, Huntoon had decided to replace the Spencer press. By chance, Spencer happened to visit the company, made some repairs, and returned the old workhorse to service.

In the 1920s, the adapted platen press became standard for braille books at APH. It was ideal for plates that embossed both sides of a page in a process called interpoint. A platen press has two flat-surfaced jaws that open and close to press the paper. Known as the "platen jobber" it was the first truly American contribution to the printing industry.[81] On the ink-print platen press, one side holds the type form; the other holds the paper. For embossing, the inking mechanism was removed. Paper was inserted between the two surfaces of a stereotype plate which was then pressed by the jaws of the press. Platen presses were still in use in 2008 for jobs requiring a higher quality impression.

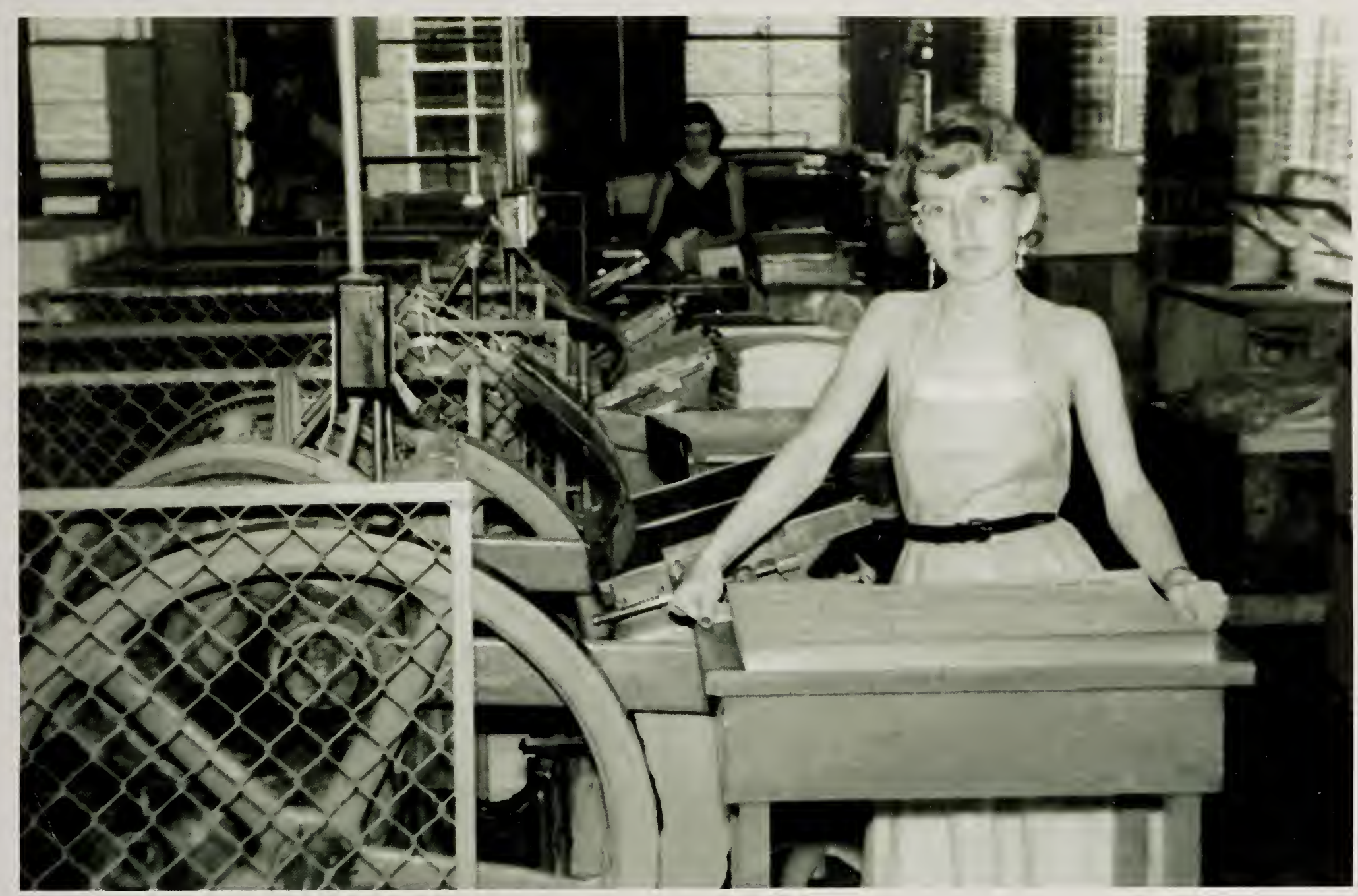
In 1933, the Printing House adapted a Kelly Press, a flat bed cylinder press with an automatic feeder, to produce either print or braille. Rotary presses developed in Switzerland by J. Bobst and Fils around 1915, which print from a continuous roll of paper, were used for magazines and larger runs.

Although platen presses were still in use by 2008, considerable production had shifted to computer-driven embossers. Machines such as the Braillo 200, Braillo 400 and Interpoint 55 were used for books on demand, small quantities, and for proofreading copies of a traditional braille book. APH bought its first Braillo in 1993 and by 2008 had five of the machines on line. An electronic file drove the embosser, which produced the book on a continuous sheet. The sheet was cut into pages ready for binding in a fraction of the time it took to produce on a traditional press.

The Stereotype Machine

From the days of Gutenberg, books were printed directly from hand-set type. Type for each page was fitted and locked into a frame, called a chase.[82] In the late eighteenth century, printers in Europe developed a process to produce a metal plate, called a stereotype plate, from a mold of a page of hand-set type. This left the type free for other uses, and multiple plates could be made from the same mold. Stereotyping was an effective technique for embossing as well as printing. At the urging of APH trustee John P. Morton, proprietor of a Louisville printing company, Superintendent Huntoon set up an advanced stereotype operation.

Tactile Page: Alphabet card in the New York Point system, prepared in raised letters at the American Printing House for the Blind in 2008 on a clamshell press using tin-lined plates originally created around 1890



Alba Hudspeth at her clamshell press, 1950

The tinfoil linings of two or three old tea chests from the Institution supplied us with the type metal, and a two-quart iron sauce pan that we could put through the furnace door of our Baxter steam engine was our melting pot.
B.B. Huntoon, 1913

Frank H. Hall, superintendent of the Illinois School for the Blind, introduced his invention, the braille stereotype machine, at the Colombian Exposition in Chicago in 1893. Hall's machine was based on his mechanical braille writer.[83] Mounted on a pedestal, the stereotype machine had a single foot pedal and six keys. By pressing the keys and stepping on the pedal, the operator impressed braille dots onto a thin metal sheet held in an upright frame.

> The stereotype machine is the silent orator whose arguments are unanswerable, and whose work will eventually make the braille absolutely universal.
>
> *John T. Sibley, Missouri School for the Blind, 1897*[84]

Soon after Hall's machine was introduced, William B. Wait, inventor of New York Point, introduced a similar machine for making New York Point plates. The 1898 inventory of the APH composing room lists "six stereotyping machines and shafting and belting for operating same." These machines enabled APH to quickly double production of New York Point books. APH purchased its first braille stereotype machine in 1906, but had been producing braille books from plates embossed by other institutions since 1893.

Through the years, gradual improvements were made on braille stereotype machines, most notably the change from foot power to electric power. 1936 saw the development of a duplicating stereotype machine that embossed two plates simultaneously. Despite such efforts, stereotyping remained the most expensive step in the preparation of embossed books. Stereotype machines were largely eliminated in the early 1980s with the arrival of computer-driven plate embossing machines (PED). Braillists transcribed text into a computer and the digital information was used to emboss the plate one line at a time. The old braille stereotype machines, however, continued to be used occasionally for making plates of non-standard sizes or designs.

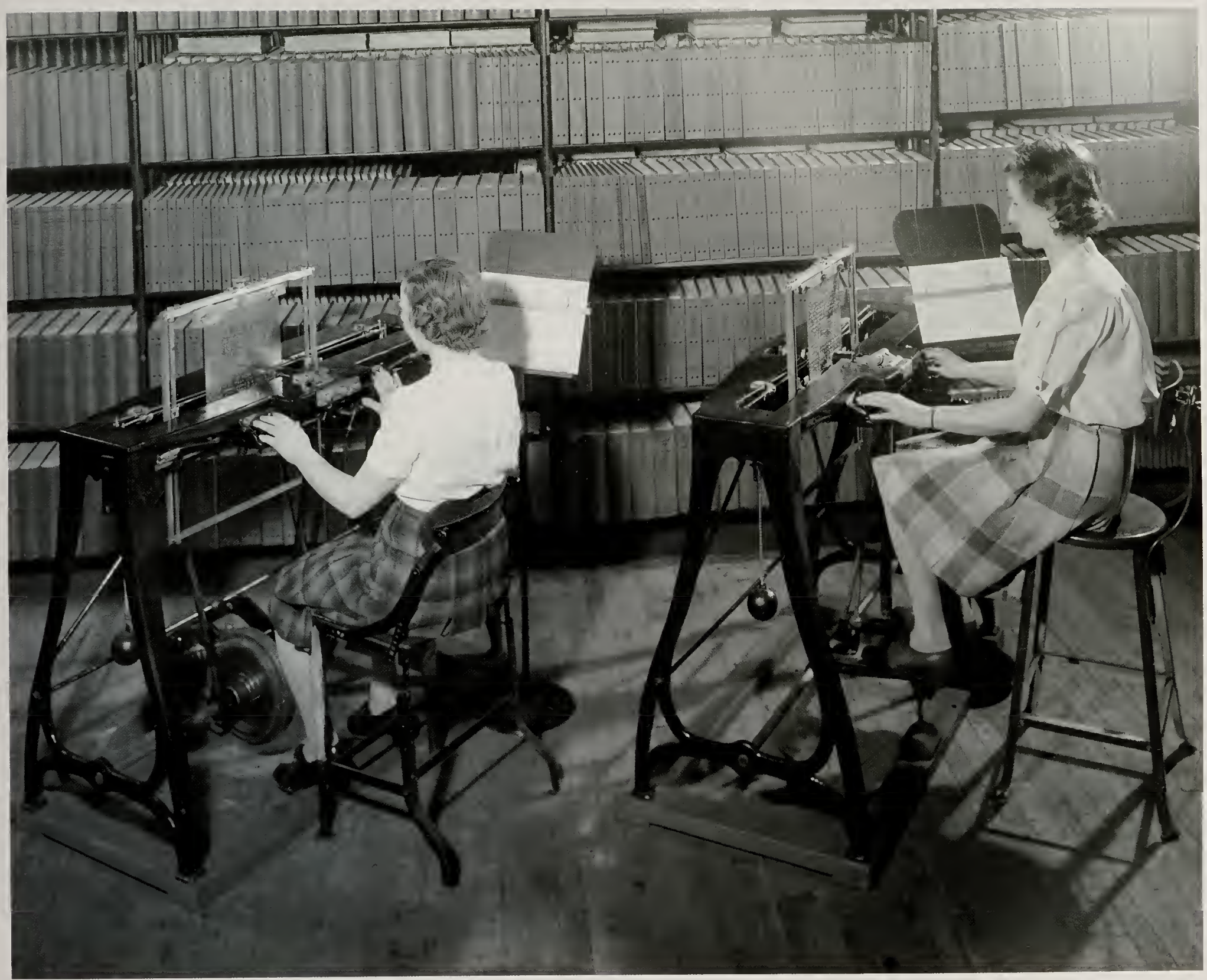
Duplicate stereotyping machine developed in the 1930s to encourage the exchange of embossing plates between braille presses in other English speaking countries

Interpoint and Interline

> With the recent rapid increase in Braille books, librarians are beginning to appreciate the importance of the space-saving qualities of interpointing, and I think it will not be long before they demand that most of the Braille publishing in this country be done in this way.
>
> *Robert B. Irwin, 1928*[85]

The first tactile books were embossed on one side of the page. Valentin Haüy adhered two pages together to form a two-sided sheet. Louis Braille's first book was glued up in the same fashion. The size and bulk of tactile books was a problem for producers and readers alike.

When point systems replaced raised letter systems, shops experimented with embossing on both sides of the page. The first method was called "interlining." Lines of dots on one side of the



Braille stereotyping machines used to create embossing plates, ca. 1940

page alternated with lines on the reverse side. This used both sides of the page, but did not save much space.

The second method was "interpoint." An interpoint page was embossed on both sides with lines of dots slightly offset. Dots on the top of a page were read normally. Negative dots on the reverse were effectively invisible to the sense of touch. Early interpoint printing failed because machinery was not precise enough to maintain the registration of the dots, but by the turn of the twentieth century, interpoint was more practical.[86] Interpoint reduced bulk and paper costs by about 40% and became common practice at APH by 1935.

The Printing House installed braille stereotype machines in 1922 to prepare two-sided interpoint plates. APH also purchased platen presses to accept the new plates. APH's ex-officio trustees, however, were reluctant to approve interpoint. Teachers who read braille by sight objected to interpoint in school books because it was harder for them to read—although it did not affect tactile reading speed or accuracy. Rather than commit to interpoint for books, the trustees decided in 1927, to print an experimental interpoint braille magazine, *Our Own*.

At the 1928 convention of AAIB, members acknowledged the advantages of interpoint, yet their support was ambiguous. Frustrated, Superintendent Bramlette wrote "[I] ran upon a concentrated bunch of critics in regard to our new process of printing on both sides of a single plate."[87] Bramlette was so interested in the process that he patented his own device, "Bramlette's Interpoint Device." He died in 1929, before he could put his invention to use and before a 1931 survey of educators gave APH enthusiastic approval for its interpoint process.

Braille Editing and Transcription

> Sheet brass is used in the machines, the words being punched in the metal. The plates go from the machines to the proof reader, who removes all mistakes with a hammer and a nail punch.
>
> *Racine Journal-News, 1922*

The first teachers of blind children resisted tactile codes because it meant, in effect, learning to write a whole new language. Translating school materials to braille or New York Point was difficult. The process of "transcribing" text into a point code required skill and a complete understanding of the intricate systems. The growth of the braille editing and transcription departments at APH took many years.

The first transcription project on record at the Printing House occurred in 1875. Under the leadership of Superintendent Benjamin Huntoon, APH prepared its first brass stereotype plates in New York Point. The plates were laboriously produced by hand with metal punches. Stereotype plates for books in American Braille, first embossed at APH in 1893, were not prepared at APH


Marjorie Hooper

until 1906. Prior to that date, most braille stereotype plates were transcribed and produced at schools in Missouri and Pennsylvania.

The skill to transcribe these early materials was hard won. It did not help that the field was uncertain about which dot system would ultimately prevail. The Printing House staff needed to be expert in several systems at once. After 1910, that situation started to clarify, as the nation began its eventual tilt to the braille system. Gertrude Rider at the Library of Congress began a volunteer braille transcribing service in 1917 to supply reading material to blinded soldiers and sailors. The American Red Cross had certified thousands of local volunteers in braille transcription through their own training programs by 1935. At APH, however, transcription continued to be considered more a phase in production rather than an expertise of its own until the arrival of Marjorie S. Hooper in 1933.

Marjorie Hooper (1908-1993) came to APH from the American Foundation for the Blind. Growing up at the Wisconsin School for the Blind where her father, Junius, was superintendent, Hooper had been exposed to braille from an early age. By 1943, she had been promoted to the newly created position of braille editor. Hooper brought a level of enthusiasm and dedication that positioned APH at the forefront of braille production in the U.S. She served as the U.S. delegate to several international conferences in the 1940s and 1950s. In 1958, she received the highest award given by the American Foundation for the Blind, the Migel Medal, from the hands of Helen Keller herself.

The transcription department under Hooper's leadership was a noisy place. Placed in several locations during her tenure, it was located for many years in the second floor wing now occupied by the company museum. Skilled operators sitting on high stools typed away at clattering stereograph machines arranged in long rows. Most operators required two years to attain proficiency.

The transcription of standard literary texts and magazines was fairly straightforward. Textbooks for science and math and musical scores, however, required a deep understanding of the braille code. Graphics in textbooks had to be adapted. Even in 2008, technical materials require considerable hands-on attention by a skilled transcriber. Transcribers were made, not born. Superintendent Finis Davis bemoaned the losses from the department after World War II as transcriptionists left the work force to marry and raise families. As a result, there were frequently too few workers in the department. In 2000, APH began collaborating with braille transcription programs in the nation's prisons to fulfill increasing demand for transcription services.

Computer Translation of Braille

> When the American Printing House for the Blind commissioned, and put into operation, a computer to translate and emboss braille onto plates which could be placed directly into a high-speed press, it was a dramatic and historic achievement. Many of us who were high school or college-aged braille readers at the time thought it nearly miraculous.[88]
>
> *B.T. Kimbrough, 2004*

Student orchestra, Blind Children's Home, Brooklyn, New York, circa 1920. By the 1920s, the Printing House offered an extensive line of sheet music in Braille and New York Point.

Superintendent Finis Davis, left, and programmer John Siems in the APH computer room, 1968

Key-punch operators, circa 1972

For the company's first one hundred years, production was largely governed by the slow speed and expense of transcribing print into braille and the creation of embossing plates. In 1957 the American Printing House for the Blind began a joint research project with International Business Machines (IBM) to computerize the braille department. The use of technology to advance the independence of blind people had long been an interest of IBM founder T.J. Watson, Sr., and the interest was shared by his son, Thomas, Jr. The project was a true partnership. IBM worked to develop a software program to translate regular copy into braille. Programmer Ann Shack, working closely with APH Braille Editor Marjorie Hooper, wrote the program in New York. APH engineers, led by Plant Manager Virgil Zickel, successfully adapted a stereograph machine driven by an IBM computer punch card reader.

The first program, while successful, was only useful for basic texts. Textbook translation was still too complicated. For quick production of literature and magazines, however, it was a dramatic improvement. A typist who did not need to know braille entered the book into a keypunch machine on a conventional keyboard. The operation eliminated the manual operation of embossing machines, reducing the translation of a typical book from six days of work by a skilled braille translator to hours by ordinary key-punch operators.

APH, however, did not own its own computer. The system of the day cost millions of dollars. Punch cards prepared at APH were sent away to be translated. In April 1964, IBM donated a Model 709 Data Processing System to the Printing House to run the braille translation program. By 1971, almost 270,000 metal embossing plates had been prepared on the computer-driven stereograph, used to emboss more than fifteen million pages of braille. After the first breakthroughs, improvements in computer translation were gradual. Technical works, such as most textbooks, were still out of reach of the translation programs.

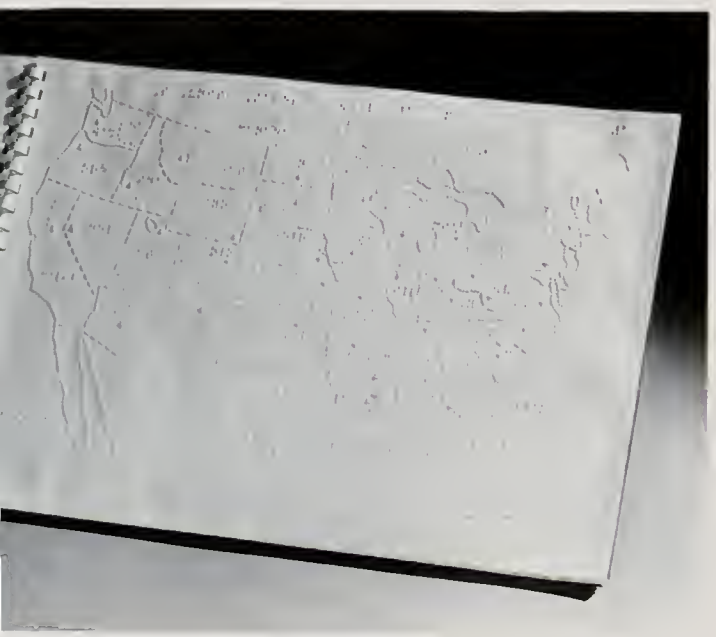
The first simultaneous publication of a braille and standard edition book was accomplished in 1968. *The East Indiaman*, a novel by Ellis Meacham, became the first book published simultaneously as a braille and standard edition book. The widely publicized feat was made possible by a cooperative effort between APH and the computer labs at the Massachusetts Institute of Technology. The IBM 709 was replaced in 1970 with a Model 7040, and it was replaced in 1976 with a 360-65. When fire destroyed the 360-65 in the summer of 1978, the drop in braille production at APH was a testament to the increasing importance of computer translation to overall production.

By 1987, braille production was almost completely computerized and had moved from huge mainframe computers to the modern desktop unit. By the early 21st century, APH used several methods for computer braille production. Most books arrived as electronic files from the publisher, although physical books were also scanned using an optical character recognition (OCR) process. The electronic files were translated into braille-ready files using a software transcription program such as Duxbury, which was first introduced in 1975. Although computer transcription reduced the

A stereotypist corrects an embossing plate with a pair of tongs, 1966. The IBM punch card reader that drives the stereotype machine is in the right background.

Writing braille requires knowledge of many complicated rules of usage. Symbols often change their meaning in different contexts. Braille consists of 63 combinations of six raised dots to represent not only the alphabet, numerals and punctuation marks, but also 183 special contractions and abbreviations, similar to written shorthand.

"Atkinson Model" Stereotype machine No.5 Pamphlet[89]



Tactile atlas

need for certified braille experts, their skills were still essential for translating books with complex formats such as math, science, music, and foreign languages.

If the book was embossed on a mechanical press, the transcription file drove a modern version of the stereograph machine. The APH Plate Embossing Device (PED) stamped braille onto folded metal plates. Plates were only used in large-quantity press runs for books, magazines, tax forms, and pamphlets.

Computerization made it possible, however, to eliminate the use of printing plates entirely. The electronic file for the translated braille book could be used on a modern braille embosser, such as the Braillo 200, manufactured by American Thermoform. APH purchased its first Braillo in 1993. Paper fed from a continuous roll was cut and collated directly on the machine. Books were ready for binding in a fraction of the time needed on a traditional press. Turnaround times plummeted. A school district in Oklahoma City with one braille reader could order a single copy of a previously transcribed science book and receive it in weeks rather than months. Across the board, computerization efforts slashed costs, decreased the number of skilled workers involved in production, and made on-demand manufacturing at APH a reality.

Tactile Graphics

Expert editors should undertake to adapt additional materials to the peculiar needs of the blind child. Charts, tables and illustrations, now unintelligible to the finger reader, should be expertly arranged.

A.C. Ellis, 1936[90]

The variety and complexity of textbook graphics and illustrations present major challenges when converting a print book to braille. Illustrations could be described verbally or made tactually legible. If illustrations were presented as raised copies of the printed image—using visual conventions of line, perspective, and overlapping to show depth—they fail to convey that information to the tactual reader. Tactile illustrations must be pared down to essential elements: raised lines of varying widths, clear symbols, and contrasting textures.

The company bought its first machine to emboss tactile graphics in 1905, a "map making machine," which embossed standard symbols. More complicated images, however, were embossed onto the plates with hand tools. Later the company developed a noisy apparatus simply called the Tactile Graphics Tooling Machine.

In 1981, the APH Research Department began to develop a plate embossing system to upgrade the quality of APH tactile graphics on paper. The resulting machine was the Plate Embossing Apparatus for Raised Lines (PEARL), which used a sewing machine action to emboss lines on plates. APH staff designed the embossing machine and a companion machine that


60

Proofreader Naomi Overby, left, works with her sighted copyholder to check a text, circa 1960

In a 1932 interview, APH proofreaders Lula May Wash and Tina Lou Wallace described their work as "absorbing and most interesting." The women read for mistakes in spelling, punctuation, and braille format, and also checked for embossed dots that were too high or too low to be legible.[92]

punched point symbols. Symbols stamped by the PEARL Companion might indicate a capital city while a river might be represented by a raised line made on the PEARL.

Tactile graphics were also produced on plastic sheets using a vacuum forming machine. A master was made by embossing a thin sheet of aluminum or by the collage method—gluing various odd bits and pieces to a flat surface. A more recent process created a tactile image with "puff ink" that raised when exposed to heat.

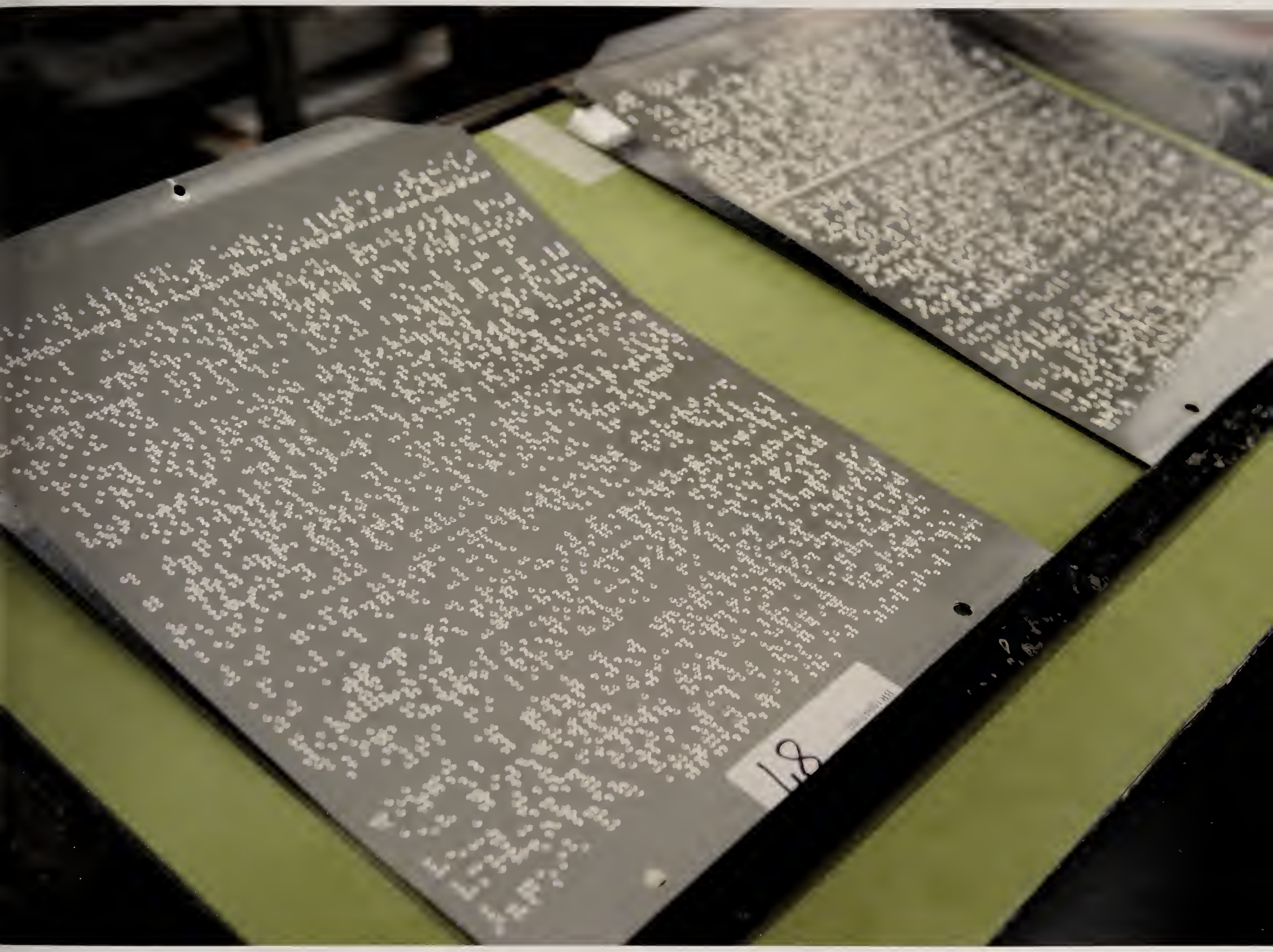
During the 1970s, tactile graphics research at APH set many of the standards still in use in 2008. The APH research department frequently consulted with outside tactile graphics experts to determine the readability features necessary to set production standards. The company became a recognized authority in tactile graphics, and many tactile graphics standards compiled by the Braille Authority of North America (BANA) originated with research done at APH.

Proofreading

> Again the well-trained, expressive fingers of the proof readers caressed the raised dots of the Braille system of embossing for the blind. Their reading by touch was rapid and evidently quite easy.
>
> *James Speed, 1932*[91]

Identifying and correcting mistakes was the key to meeting the highest standards of braille embossing. Historically, stereotypists transcribed braille directly onto embossing plates and sent a proof copy to proofreading. If there were mistakes, they were corrected on the plate itself. Workers flattened incorrect dots with a hammer and inserted correct dots with a punch and mallet. Manual correction was eliminated at APH in the 1980s when stereotype machines were replaced by the Plate Embossing Device. Computer processes allowed corrections before plates were manufactured. Although it was easier to make corrections, the proofreading necessary to find mistakes remained a labor-intensive process.

Braille proofreaders worked in pairs: a braille proofreader read the braille page aloud and a copy holder followed the same material in print. By the twentieth century, the proofreader was usually visually impaired; copy holders were sighted. When the proofreader found a mistake, it was marked and corrected before embossing. No device has yet been created to duplicate the process that transmits tactual information from fingers to brain. Braille Proofreading was one of the few departments at APH that remained largely the same in 2008 as it was in the past.



Collating a magazine

Anna Mae Ball saddle stitches a magazine in the APH bindery, circa 1970

Collating and Binding

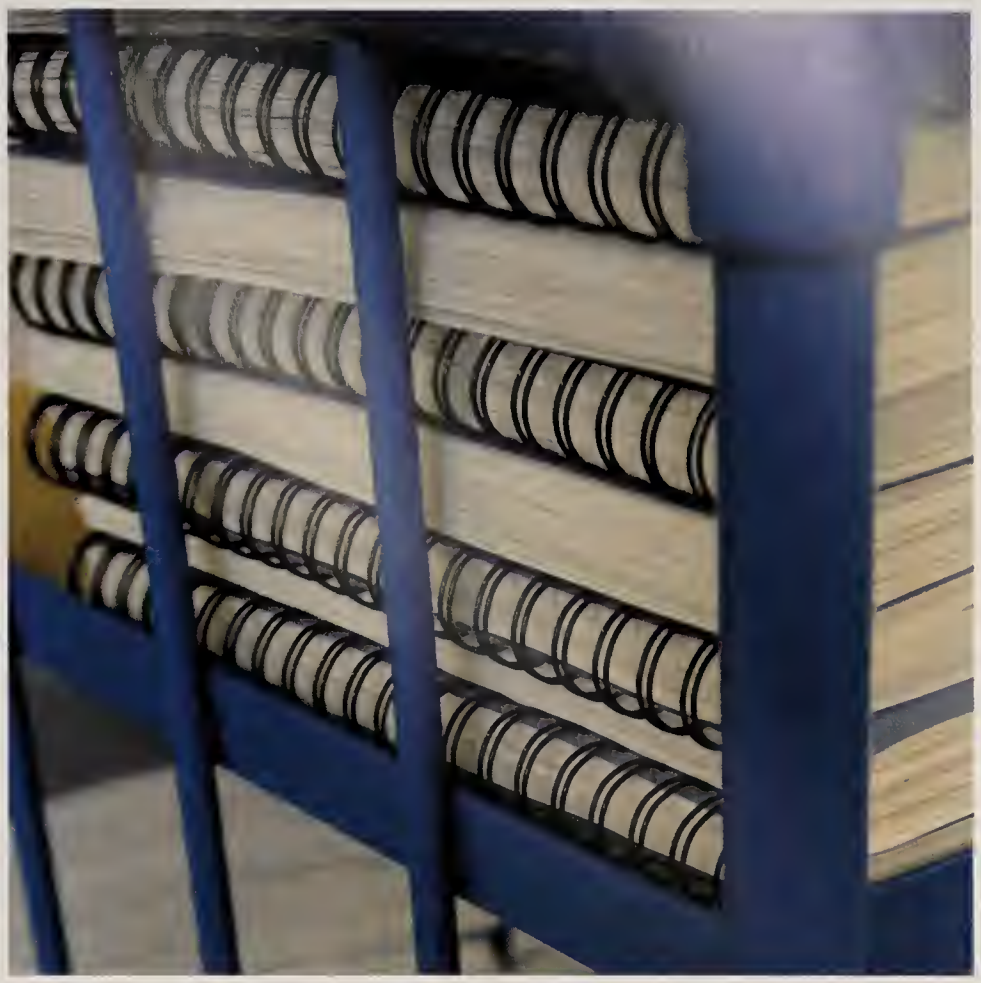
> One of the things I did was to work at the old round table, gathering braille. That was an experience, because I didn't know braille numbers. Sometimes I would miss a sheet and I'd have to run around the table and pick up the sheet.
>
> *Beverly Hassan*

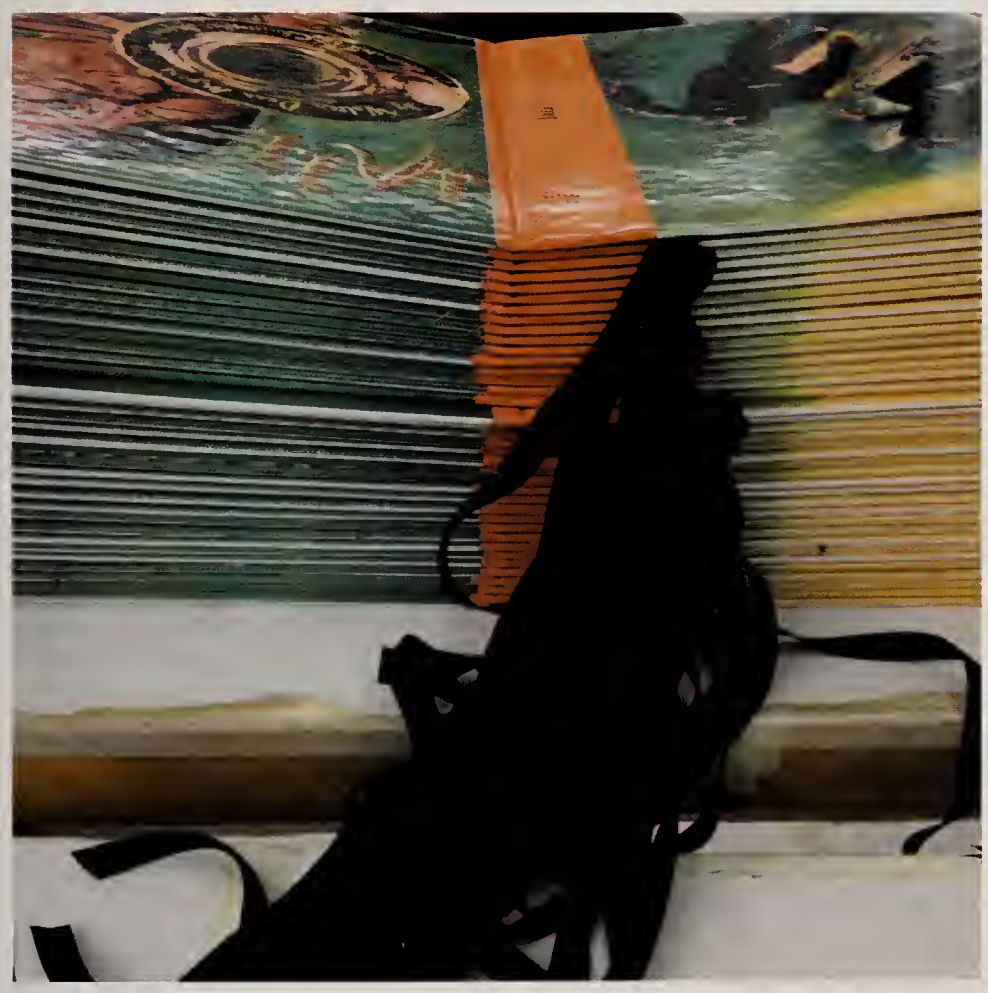
Prior to the arrival of the computer embossers, braille pages were collated—arranged in order prior to binding. Workers collated braille pages by hand. Although APH engineers tried other approaches, they found that mechanical methods damaged the raised braille dots. Superintendent Ellis reported in 1942 that he had purchased a "rotating bindery table for gathering the pages of magazines." Oral history accounts describe the collating table, nicknamed "the carousel," where employees assembled *Reader's Digest®* and other publications. The table was replaced in the mid- 1970s, but workers continued to do much of the manual work of gathering the pages in correct order.

In 1870, Superintendent Patten wrote: "The failure on the part of book-binders to fulfill contracts in a satisfactory manner has greatly interfered with sales of the books printed by this House."[93] He went on to say that, at the end of the year, they purchased the equipment and established a bindery for the Printing House. The next year, 1871, sixteen-year-old Nellie A. Kenney began working in the bindery. She recalled, "When I first worked in the bindery, the pages were sewed together by hand, and it took me a full day to do eight or ten books."[94]

Braille books have been bound using different methods. They were saddle-stitched in the past. By 2008, most were assembled with ring binding or spiral comb binding, depending on the type of book. All braille books are now bound so that they lie flat for reading.

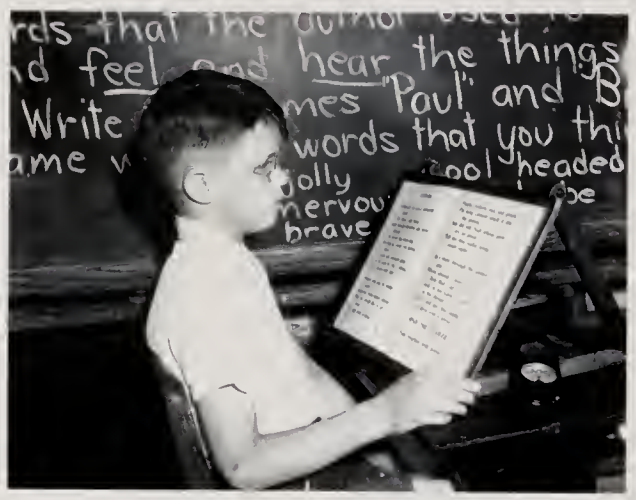
Braille books were practically non-existent in the United States until the last quarter of the nineteenth century. Prior to that time, books for blind readers were produced in raised roman letter systems, such as Boston Line Type, and New York Point. APH adapted contemporary printing processes and machinery and used them for embossed printing. The Hall Stereotype Machine revolutionized platemaking and, because it made braille easy to produce, helped to turn the tide of opinion in favor of the exclusive use of braille in the United States. In the last third of the twentieth century advances in computer automation moved braille production far beyond the mechanical stereotype machines and hand-fed embossing presses that served for so many years.






THE LANGUAGE OF

Chapter 6: Large Print and Talking Books



Large type textbook in a Louisville public school classroom, circa 1935

By the 1930s, APH had mastered the production of the braille book. For some low-vision students, however, braille was not the ideal answer. Adults who lost their vision later in life also experienced difficulty mastering a tactile code. For these audiences, new book types and technologies would be necessary.

Large Print

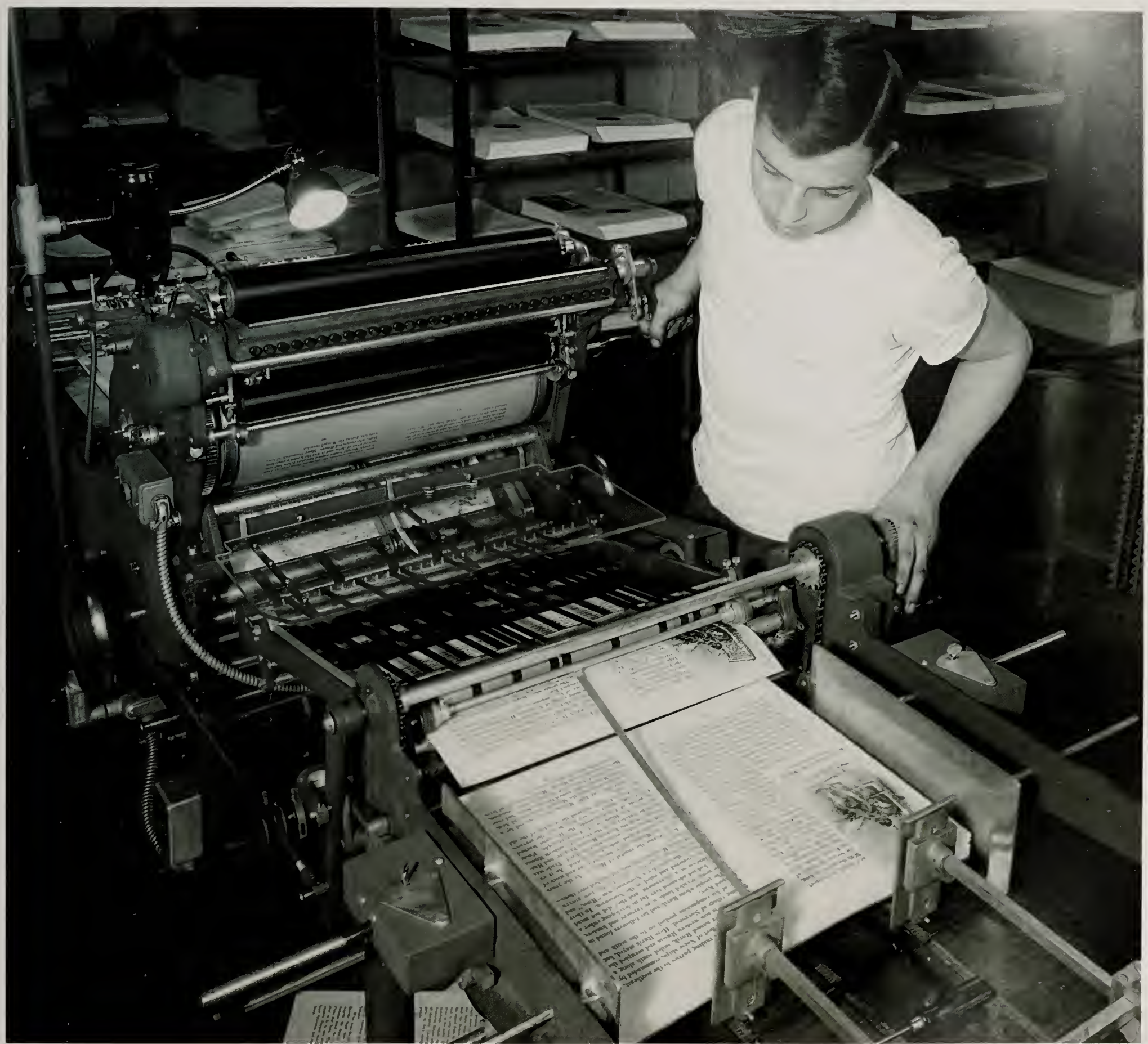
> The day school movement in Chicago considered all its pupils blind, and taught them as such for years, until in a few cities, certain of the semi-blind were segregated and taught as semi-blind pupils chiefly through the eyes rather than the fingers. The movement for such segregation is scientifically correct and represents a great educational advance in the proper methods of teaching children not suffering from blindness but from severely deficient eyesight.
>
> *Edward E. Allen, Director, Perkins Institution, 1922*[95]

The early schools for the blind taught children with a wide range of visual ability. Not until the early 1900s did some educators suggest that students with different levels of visual functioning might need different educational materials and instruction. These pioneers established public school programs that offered programming based on the theory that vision could be "used up" and that low vision students were at particular risk. The first such programs used large print materials and were called sight-saving classes.

Soon after, APH began receiving requests from teachers to produce large print materials. In 1936, APH printed an experimental edition of a children's reader *Everyday Manners for American Boys and Girls*. This was the first large print publication printed at APH. Financed by a private benefactor, the book was printed using hand-set monotype. This process was slow and expensive, especially in small quantities, but produced a high quality book.

Nationally, classes for low vision students were still in their infancy. Demand for large print books was low. In contrast, braille production was at an all-time high, and the printing capacity of the company was strained. A new department was physically impossible. Although *Everyday Manners* was well received, APH officials were not convinced that the time was right for a full-blown effort.

APH trustees revisited the subject in 1944. There were sixty-five thousand visually impaired children in America, ten times the number of blind children.[96] It was reasonable, they decided, that APH should provide books for both groups. The company requested federal assistance, and in 1946, An Act to Promote the Education of the Blind was expanded to include large print books. A year later, newly hired Superintendent Finis Davis set up the large print department with new equipment and staff. He wrote, "The inauguration from scratch of a new department of the size



Printing a large type textbook on a sheet-fed offset lithographic printing press, 1959

Dolores "Sissy" Robinson examines copy from the Xerox IGEN3 Digital Production Press, 2007

and scope of our large type printing is always a headache. I believe, however, that there have been times when it materially increased the sales of aspirin."[97]

After numerous experiments, the department staff settled on preparing copy on a proportional-spacing electric typewriter and reproducing it with a photo offset process. By 1948, the large print department was in full production, with several books printed and bound. The process, however, was still not satisfactory. Workers experimented with photographic enlargement but by 1954 had determined that simply enlarging the pages was not satisfactory. The resulting books were too large, unwieldy, and costly.

In order to produce an affordable textbook, each book project required a substantial press run. Large print books, however, were used primarily by low-vision students in the public schools. The schools needed a wide variety of textbooks but only ordered a few of each. Too many books went unsold. The printing process developed for shorter runs was cheaper, but produced a book of poor quality.

In the 1970s, after a great deal of research, APH developed a method to make short runs that met the needs of the schools. Textbooks were reproduced from the original books and photographically enlarged. A plastic photo offset printing plate, rather than metal, decreased production costs. Producing ten copies rather than hundreds reduced the problem of unsold inventory clogging the company's warehouse.

In addition, the large print department developed a "regular run" process. Large cameras photographed the original text, which was enlarged to eighteen-point type. The negatives were cut apart, reassembled in a process called "stripping," and chemically burned onto metal plates. The durable metal plates were useful for books that might be reprinted in the future. A typical press run produced seventy-five or more copies.

Despite these advances, the lag between orders and book delivery was a perennial problem. Beginning in 1989, popular large print textbooks were delivered more quickly under an initiative called Early Start. Before orders even arrived, APH selected likely textbooks and prepared the plates for printing. Early Start books could be printed and delivered to customers soon after they were ordered. By the 1980s, however, APH had been working with techniques to eliminate the need for offset printing plates entirely.

The first practical photocopiers were introduced by the Xerox Corporation in 1959. The technology was immediately appropriated for use in large print reproduction. APH first purchased Minolta copy machines that were used for orders as small as a single copy and delivered a finished book within a two-week period. Photocopiers also collated pages automatically, saving time and labor. The quality of the early photocopied large print books, however, was limited.

APH improved its ability to deliver books "on demand" by installing a Xerox Docutech in the early 1990s. "We found that these machines could give you that one copy," said Jack Decker, APH


HAMILTON
HAMILTON
HAMILTON
HAMILTON

American Foundation for the Blind Director Robert Irwin announced AFB's commitment to Talking Books at the 1932 convention of the American Association of Instructors of the Blind. Irwin, who was blind, played a test recording and remarked to the delegates, "I have always dreamed of books on phonograph records ever since my first hearing of a squeaky Edison cylinder. I was never a rapid braille reader.... When I was a boy...and had earned a few pennies to spend, I used to save up those pennies to hire a rapid finger reader to read stuff to me that I wanted to hear."

Reading a Talking Book project in the original APH studio, 1936

plant manager. "That's worked tremendously well for us." The Docutech system linked an advanced, high speed photocopier with a desktop computer. It allowed the company to produce offset quality pages at a fraction of the cost and time of the photo offset printing process. The company added an even more sophisticated Xerox Igen3 Digital Color Press to its toolkit in 2005.

Copiers that used digital files meant there was no need for printing plates. Textbooks were scanned in advance and ready to print on order. Besides speeding production, digital copiers improved the quality of books. The older processes printed black and white books from color originals, often eliminating the contrast needed for legibility. Modern editing software made it possible to remove background color and make illustrations and type clearer.

APH developed a process in 2002 that yielded a large print textbook the same size as the original volume. The technique resulted from research that began in 2000 by the Accessible Textbook Initiative and Collaboration (ATIC), which later evolved into the Accessible Textbook Department. Beginning with a color scan, and using specially-designed software, type was enlarged and reformatted. Students who used large type had standard size textbooks instead of books that were oversized and conspicuous.

National large print textbook needs evolved from a few standard texts to a wide variety of books used in different school systems. In meeting these needs, APH moved from printing large quantities of an individual book at great expense to producing an economical single copy "on demand" with improved copier technology.

Talking Books

> Less than ten minutes ago I turned off my radio—returned home from taking in the Kentucky Derby. What a wonderful age in which we now live! Radio, abundance of literature in Braille, as compared with the past, and now–shall I add to it, "Talking books?"
>
> *J. Robert Atkinson, Braille Institute of America, 1934* [98]

In his 1877 patent application, Thomas Edison listed "phonograph books, which will speak to blind people without effort on their part," as a potential use for his phonograph. It took more than fifty years to make Edison's prophecy a reality. Recorded books for blind people, like tactile books, lacked commercial value, but were invaluable to blind people. The impact of recorded books on the lives and intellects of blind and visually-impaired people was expressed by Frances Koestler in The Unseen Minority:

> Of all the devices that blazed paths of progress for blind people in the twentieth century, the Talking Book was in a class by itself. With a spin of a turntable, it opened the world of reading to the three out of four blind adults who had never mastered finger-reading well enough, if at all, to use it as a satisfactory means of communication.[99]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FREE MATTER
FOR THE BLIND
OR HANDICAPPED
INDIANA STATE LIBRARY
SERVICES DIVISION
140 NORTH SENATE AVENUE
INDIANAPOLIS, IN 46204
63937

(Braille Institute of America)

Robert "Fighting Bob" Atkinson of the Braille Institute of America announced in 1933 that he had invented a Talking Book machine that was much farther advanced than that of the AFB machine—a "revolutionary" invention for sound recording he called the "Readophone." He made bold claims and promoted it widely. AFB suspended its own Talking Book production temporarily, and assembled an expert committee to test the machine. After the committee decided against Atkinson's player, Dr. Herman Meyer of the Library of Congress wrote to Atkinson that the NLS refused "to be precipitated into a fight between rival reproducing machines for the use of the blind, a fight similar to the struggle over embossed types of several decades ago."[102]

Studies in the 1920s showed that only twenty percent of blind people could read braille. Most lost their sight after the age of 50, when it was more difficult to learn any new language. Recorded books provided blind adults with an attractive alternative. The American Foundation for the Blind (AFB) began research to develop a long-playing record with high quality sound at an affordable cost. The result was the 33 1/3 rpm recording, the first application for long-playing records, which were not available to the general public until 1948.[100]

AFB experiments proved that Talking Books were technologically possible. Nothing much might have happened, however, without the massive investment in Talking Books by the federal government in the form of the National Library Service (NLS) in 1934. The Pratt-Smoot Act of 1931 had established a national free library service for adult blind readers that provided braille books distributed nationwide by regional libraries. APH was one of four braille printers that participated in the first NLS book order in 1931. In 1934, NLS services expanded to include books recorded on phonograph records.

At the beginning of the NLS library system, there were no subsidies to provide Talking Book machines (or players). Readers had to purchase their own players. AFB developed the first players in 1933 and produced and distributed them to blind users at cost. In 1935, President Franklin Roosevelt approved the production of five thousand Talking Book machines through the Works Progress Administration (WPA) and offered them to blind readers at no charge.[101] By 1942, the WPA had supplied 20,000 machines to readers all over the country.

In the mid-1930s, APH Superintendent A.C. Ellis was fairly skeptical of Talking Books, describing them as "schemes which result in very little good to the blind." He was converted, however, when he learned that over sixty thousand older Americans with severe vision loss would probably never master braille. "The old adage 'You can't teach an old dog new tricks' applies particularly to reading with the braille system," Ellis said. "With one out of every four blind persons of all ages able to decipher the raised dots, the 'Talking Book' becomes an indispensable medium."[103]

In February 1936, Ellis opened a model sound recording studio at the Printing House. He wanted APH to be in the record production business as well, and immediately began assembling processing and pressing equipment. By 1937, APH was the only institution for the blind in the world equipped to manufacture Talking Book records from wax recording to finished pressing. Beginning with *Gulliver's Travels*, narrated by WHAS radio newsman Hugh Sutton, five Talking Books were produced in the first year of production at APH.

> We now have a fully equipped phonographic book department at the Printing House. We are recording, electroplating and pressing our records in our own plant.
>
> *A.C. Ellis, 1937*[104]


TALKING BOOK
CORRIDORS OF LIGHT
By Eleanor C. Brown, Ph. D.
IN 8 RECORDS
PAGE 2
APH 42511
COPYRIGHT 1938 BY THE ANTIOCH PRESS
READ BY TERRY HAYES BAILES
RECORDED 1939
BY PERMISSION OF THE PUBLISHERS
THE ANTIOCH PRESS
MANUFACTURED BY AMERICAN PRINTING HOUSE FOR THE BLIND
SOLELY FOR THE USE OF THE
PROVIDED BY THE U. S. GOVERNMENT THROUGH THE LIBRARY

The recording of *Gulliver's Travels* was followed by *Silas Marner, Treasure Island, Pinocchio,* and the *Sketch Book.* APH had obtained a ruling allowing the production and distribution of these titles under the textbook program of the Act to Promote the Education of the Blind. Along with the American Foundation for the Blind (AFB), the Printing House contracted with the National Library Service (NLS) to produce selected titles. Some of the first titles ordered by NLS were the *Declaration of Independence; Washington's Farewell Address; Lincoln's Gettysburg Address*; Shakespeare's *As You Like It*; Kipling's *Brushwood Boy*; and P.G. Wodehouse's *Very Good Jeeves.*

After World War II, blinded veterans dramatically changed the choice of titles that the Printing House issued. In 1945, Gilbert Ohlmann, director of the APH Talking Book Department, said that the addition of servicemen to the ranks of the blind caused APH to invade the field of "pulp literature" and "whodunit thrillers." The G.I. influence was evident in publication of such titles as *American Sporting Scene, Successful Selling for the New Day*, and *So You're Going to Buy a Farm.*[105] In 1950, C. A. Schwermann, head of the NLS Talking Book service, described the change in the subjects represented in the collection: "The collection must meet the needs of those who wish to study and read the Bible, and of a much larger group, like their sighted friends, who prefer the latest current novels, detective stories, westerns, and books on politics, economics and history."[106]

Steady contract work for NLS allowed APH to grow into the largest supplier of Talking Books in the country. Although the studio would expand its recordings to include magazines, catalogs, brochures, annual reports, textbooks, and academic tests; the bulk of APH recordings continued to be produced for the National Library Service. Each year the Printing House studio bid against other recording studios for NLS titles. The largest annual production for the APH studio was over eight-hundred titles recorded in 1988. Annual production in the last quarter of the twentieth century averaged about five hundred titles.

Jim Walton, a popular Louisville newscaster, reads in Studio Five as the monitor adjusts a Scully 280 hi-fidelity tape recorder

Readers across the nation looked forward to receiving their recorded versions of popular weekly and monthly magazines

The First Talking Magazines

Not all APH Talking Books were contract work. The Printing House also initiated its own recording projects. The APH studio produced the first recorded magazine, the September 1939 edition of *Reader's Digest®*, eleven years after the first braille edition of the magazine. Copies of the recorded magazine were sent to schools for the blind and to libraries that served adult readers. Later magazines were mailed directly to subscribers.

The January 5, 1959 issue of the *Newsweek®* Talking Magazine was the first weekly news magazine to be recorded. Studio and production staffs were faced with the challenge of coordinating their work so that readers received it by mail at the same time as subscribers of the print edition. To facilitate production, *Newsweek®* sent advance print copies that were divided and assigned to several narrators to be read simultaneously. After nearly fifty years, the timely production and delivery of *Newsweek* and other time-sensitive publications, has become a well-organized routine.

An engineer oversees a Scully record lathe as recording proceeds in the original studio through a viewing window beyond, 1936

Narrator Livingston Gilbert reviews a book project with a monitor prior to recording, 1964

Paul Clark, 1959

The Stars of APH: Talking Book Narrators

The first Talking Book narrators were male radio actors who supplemented their incomes with Talking Book recording; however the studio also hired women from its earliest days. The Printing House employed only professional narrators, trained in acting, public speaking, or radio and TV announcing, who had to pass rigid auditions. APH Talking Book narrators have received national awards for their work, and they were traditionally the "celebrities" of the company. Even in a crowded room, Talking Book readers recognized the voices of their favorite narrators.

WHAS radio newsman Hugh Sutton narrated the first Talking Book for APH. Terry Hayes Sales, a staff singer for WAVE and WHAS who was the first APH female narrator, and WAVE news reader George Patterson had careers that spanned over 50 years.[107] In 1997, Mitzi Friedlander became the first person in the history of the NLS program to have read 1,000 books.

In her over forty-year career in the recording studio, Tina Lou Wallace[108] had vivid memories of the reading skills of the early narrators. "We found," she said "that Livingston Gilbert had an authoritative sound and a sound of determination. We used him chiefly on factual books." Wallace thought that Burt Blackwell was the most popular fiction reader APH ever had—"and let's face it," she said, "fiction is more interesting if there's a certain amount of dramatic input and Burt was awfully good at it."

The earliest recordings in the APH studio were captured on a wax master, a process that often caused great frustration for narrators. Wallace recalled, "In the old days we were putting fifteen minutes of reading to each side of a disc. Very often a reader would reach perhaps the fourteenth minute of the recording and make a serious mistake. There was no way to correct it in those days, because the recording had gone right onto the master disk. So, the reader would have to start all over again. It was heart breaking."

Terry Hayes Sales described narrating the fifteen-minute recordings that had to be "letter perfect." "It was a little bit nerve wracking," she said, "when you got to about fourteen minutes and a half." The advent of reel-to-reel recording machinery in the late 1940s made corrections possible for the first time. Two-hour recording blocks replaced the dreaded fifteen-minute sessions.

Book projects were assigned to narrators by the studio director based on their special skills. Each narrator worked with a monitor who directed the recording process. Both prepared for the recording by researching the book, studying its mood and characters, and checking pronunciation and dialects. During the two-hour recording sessions in the studio, the monitor followed the text as the narrator read, listening for artistic quality and accuracy.

It took about 24 hours in the studio to make a twelve-hour recording of a 300-page bestseller. After a book was recorded, it was proofread and sent back to the studio for correction. The recording and proofreading process was greatly improved with conversion from reel-to-reel

Mitzi Friedlander

Ellis proudly listed the equipment in the APH phonographic department: a rolling mill for conditioning record stock, wax molding equipment, complete studio for recording the waxes, electroplating department for processing of metal master records, complete hydraulic record pressing department consisting of hydraulic pump and accumulator, steam pressure boiler, seven standard record presses, three steam tables, and three electric heating ovens.

Record press line, 1936

recording equipment to a digital system in 2004. Recording software used in the digital studios was developed in the APH Technical Research Department.

Talking Book Production

> It is a source of satisfaction to the Superintendent to be able to report that it is not now necessary to depend upon any outside agency for any step in the manufacture of Talking Book records.
>
> *A.C. Ellis, Superintendent, APH Annual Report, 1939*[109]

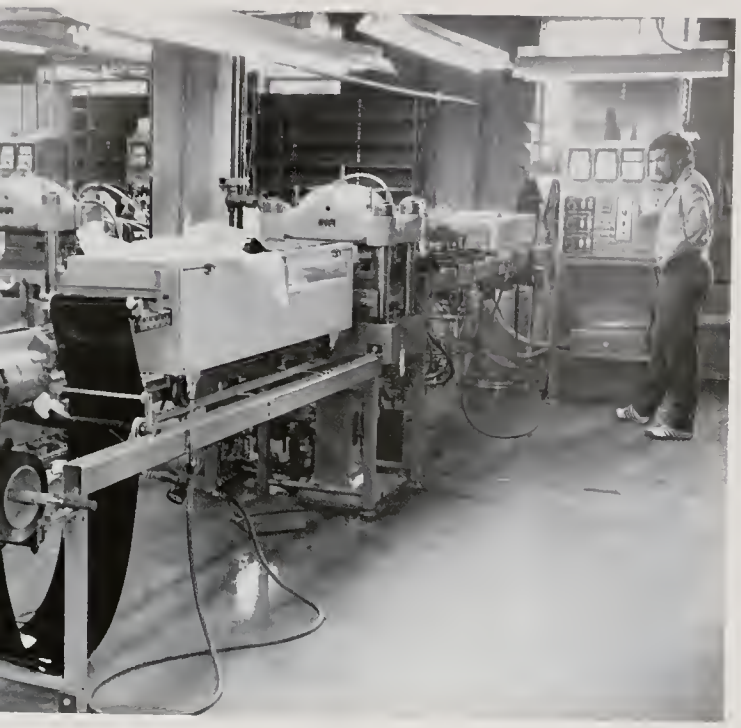
The first APH recordings were made on a soft wax "master" that had to be hardened in a refrigerator before it was used to make a master disk. A lathe operator "cut" a master disk for the original using a precise machine called a record lathe while looking through a microscope to check the quality of the groove. The master was used to create "stamper" disks impressed with the grooves of the recording. "Stampers" fit into mounts held face-to-face in the jaws of a hydraulic record press. Recording the original on magnetic tape replaced wax recording in the late 1940s, but otherwise the record pressing operation changed little until the 1970s.

The material that was stamped into a finished record was vinylite, a polymer introduced in 1930 by National Carbide. Record press operators described heating the vinylite "biscuits" in an oven until they were soft, then placing the material between two record labels on the press. When an operator closed the lid, blasts of hot steam and cold water were forced through channels behind the stampers. The steam forced the vinylite to flow into the grooves of the mold. The cold water hardened it instantly. The finished record, complete with label, was lifted out of the press. Operator Beverly Hassan recalled, "It got very, very hot in the summer time, really hot. Of course, we had no air-conditioning then; we just had windows."

APH introduced flexible records in 1970. A continuous production line could issue sixty flexible disk recordings per minute at relatively low cost. The disks were light-weight, easily shipped, and disposable—ideal for magazines. In 1972, APH announced, "The Talking Book Department has not only completed the technical research, but has built the machinery and set up the routines for the production of a quality, thin, throw-away record for recorded magazines."[110] In 1975 APH reached an all-time high for record production when two production shifts manufactured over 500,000 recorded copies of monthly magazines. Titles included *Reader's Digest®* and *Newsweek*, along with various recorded magazines produced for the NLS.

Tony McGrath checks the grooves of a master disk on a record lathe, 1966

Preparing vinylite "biscuits," circa 1965



Harlan Hall monitors a flexible record production line, circa 1980

Tape duplication line, circa 1985

Even as APH experimented with flexible records, the Library of Congress established a program to distribute Talking Book cassette tapes. APH began cassette tape production in 1970. The company completed the entire production process in-house—from studio recording to finished product, boxed and ready for shipping.

Cassette tape production began in the tape duplication department with a master tape from the studio recording. The master tape was reproduced onto hubs, each holding forty copies. The hubs were mounted on cassette loaders where cassettes were automatically loaded with one copy of the recording. Tapes were recorded on four tracks at 5/16 inches per second. Most standard-length books fit on two cassettes.

Because cassettes held so much material, they were ideal for large reference works. The medium also lent itself to indexing systems and speech compression. These features provided blind people with easier access to and quicker reading of multi-volume works like the *Talking World Book* and the *Concise Heritage Dictionary.*

Touted in promotional literature in 1981 as an "educational-resource miracle," the *World Book Encyclopedia* was the first general encyclopedia to be recorded. It was produced on 219 six-hour cassette tapes, divided into nineteen volumes, each containing twelve tapes and an index in both braille and large print. Project designers created an indexing system that listed the cassette number, track, and position of each subject in the encyclopedia. APH developed a special player for the set that could locate an article at the touch of a button.

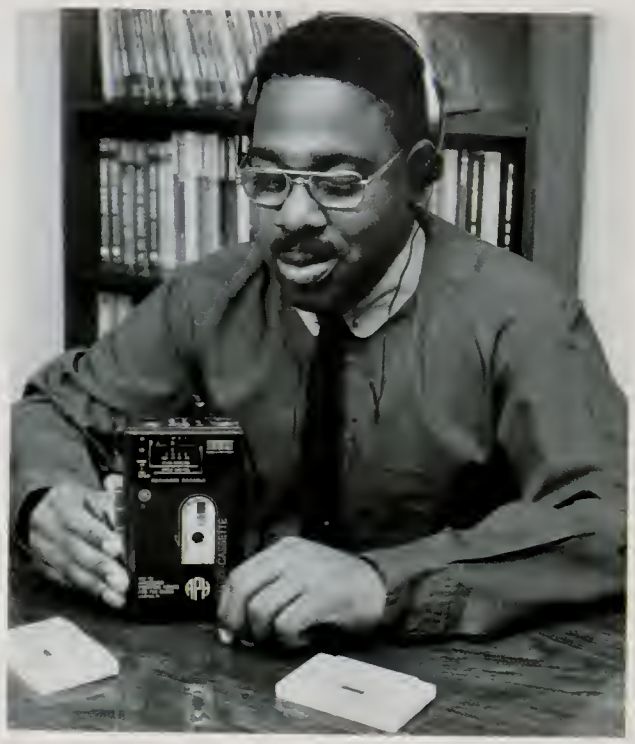
APH also produced the first voice-indexed dictionary for blind and physically-impaired people in 1984. The *Concise Heritage Dictionary* had fifty thousand entries recorded on fifty-five cassettes, and its voice-indexing capability provided visually impaired users with fast access to specific sections of recorded text. The recorded material was audible even when the tape was in "fast forward" or "rewind" so that the user could stop at a spoken word or other audio cue.

Speech Compression

> Blind people may be able to "thumb" through their favorite magazine or book nearly as quickly as people with sight by using a new device developed by the American Printing House for the Blind.
>
> *The News, Van Nuys CA, Nov. 6, 1975*

In October 1971, APH, AFB, and Cambridge Research and Development Group of Westport, Connecticut, held a news conference in New York City to announce Variable Speech Control (VSC). The Cambridge Group had developed VSC based on the research of Dr. Emerson Foulke, a blind psychologist at the University of Louisville. The breakthrough allowed visually-impaired people to read audio books more quickly.

Tactile Page: Alphabet card in the American Braille system, prepared in raised letters at the American Printing House for the Blind in 2008 on a clamshell press using tin-lined plates originally created around 1900



Kenny Jones models a Handicassette compact talking book machine, ca. 1990

Researchers found that the optimum rate at which words could be spoken was 175 words per minute (wpm). An average print reader read 300 wpm while a good braille reader read around 100 wpm. Speech compression promised an opportunity for Talking Book users to read as fast as print readers. The technology allowed playback speed to be increased without alteration in tone and pitch. Variable speech control soon became a standard feature on all Talking Book and cassette players.

The Printing House produced its first Talking Book Reproducer, a modified phonograph, in 1951. The company's engineers modified a commercial reel-to-reel player in 1965, the Wollensak 1220. The Sony 105TR, introduced in 1969, was the first APH variable speed player with tone indexing, and was designed in the APH Educational Research Department. From the early 1970s through the 1990s, APH offered a number of modified Talking Book phonographs and cassette player/recorders, and added improvements with each successive model.

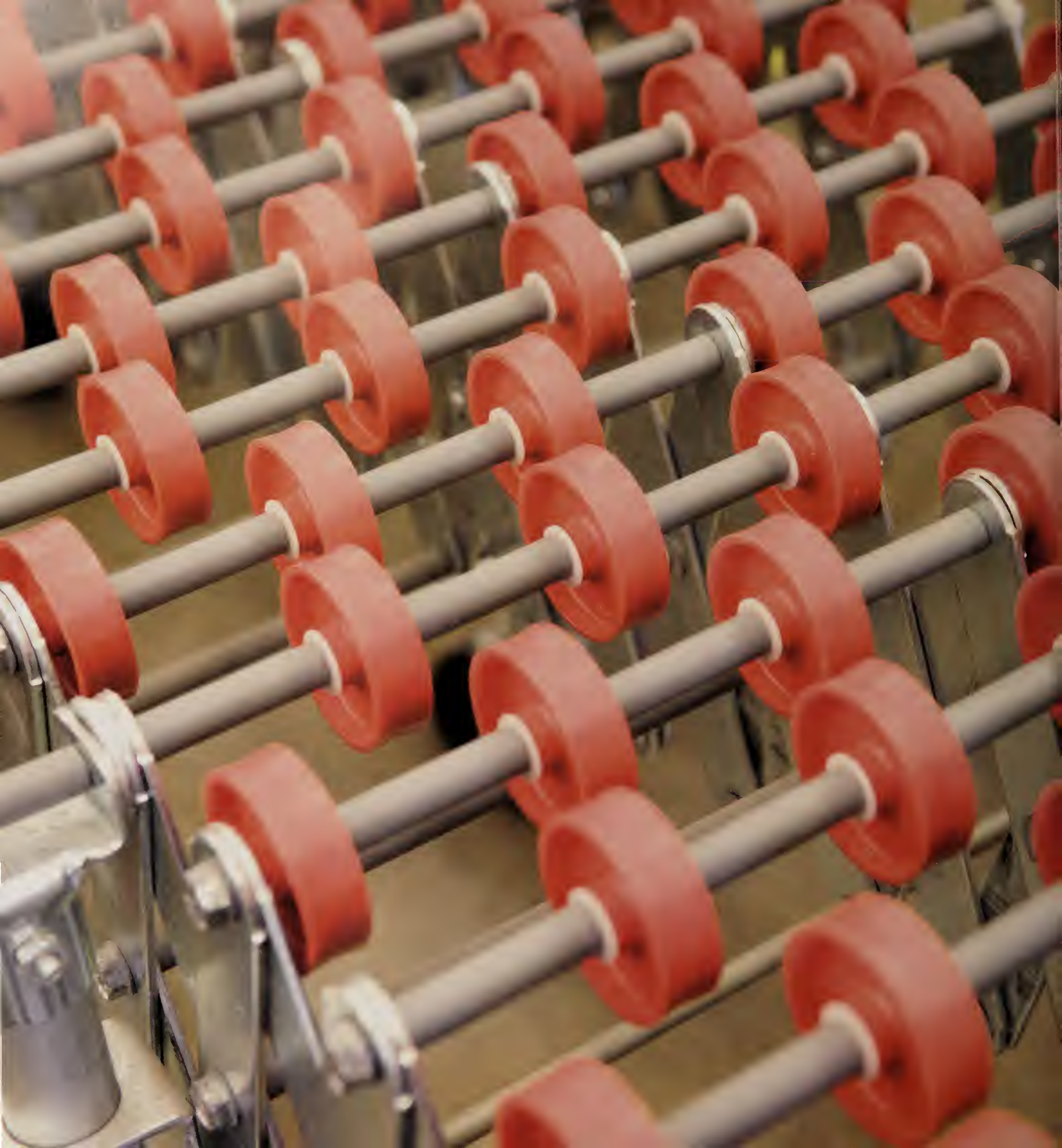
Conclusion

Thomas Edison was right. His phonograph was, as he predicted, used to make "phonograph books, which will speak to blind people without effort on their part." The pioneering work and vision of the National Library Service provided funding and the oversight of the complex program. The depression-era Federal WPA program gave the Talking Book project a tremendous boost with the manufacture, distribution and repair of Talking Book players.

The Printing House was an early participant in the audio book field, contributing the considerable talents of Louisville narrators and its state-of-the-art production facilities. For the Printing House, Director A.C. Ellis's vision and commitment to audio book production completely altered the character of the company and added a new direction and a new audience of visually impaired adults who did not read braille. Contract work from NLS provided a new focus for creative research and development as well as significantly increasing revenue and staff numbers.

Helen Keller wrote to President Herbert Hoover in 1933 asking his support for AFB's new recorded book program. She said that when Talking Books become a reality, "the blind will read a book by ear just as they now listen to a musical composition or a speech over the radio. The pleasure of reading will thus be brought within the reach of many people who, losing their sight in adult life, find it difficult to read with their fingers."[111] In continually evolving formats, Talking Books promise to enhance literature for blind people well into the future.


SIDE 2
AMPEX
SIDE 1
AMPEX
APH
SONY
MATIO



> Schools for the blind, however, need other things than embossed books. We need kindergarten apparatus, tangible models of every description, arithmetical frames, type tablets, skeletons, broom machines, pianos, melodeons and pipe organs.
>
> *B.B. Huntoon, 1886*[112]

In the first schools for blind children, teachers relied on their own ingenuity to create educational aids or to adapt those designed for sighted students. They fashioned educational aids from common objects to illustrate difficult concepts. Maps were made with clay, papier-mâché, wood, or metal. Science teachers used natural specimens for direct observation and took their students on field trips for experiences outside the classroom. Small objects that were readily available and easy to manipulate were used for numerical calculation, and numbers were recorded with knotted cords and notched sticks. The early educational aids were primitive, but they provided models for mass- produced aids soon to come.

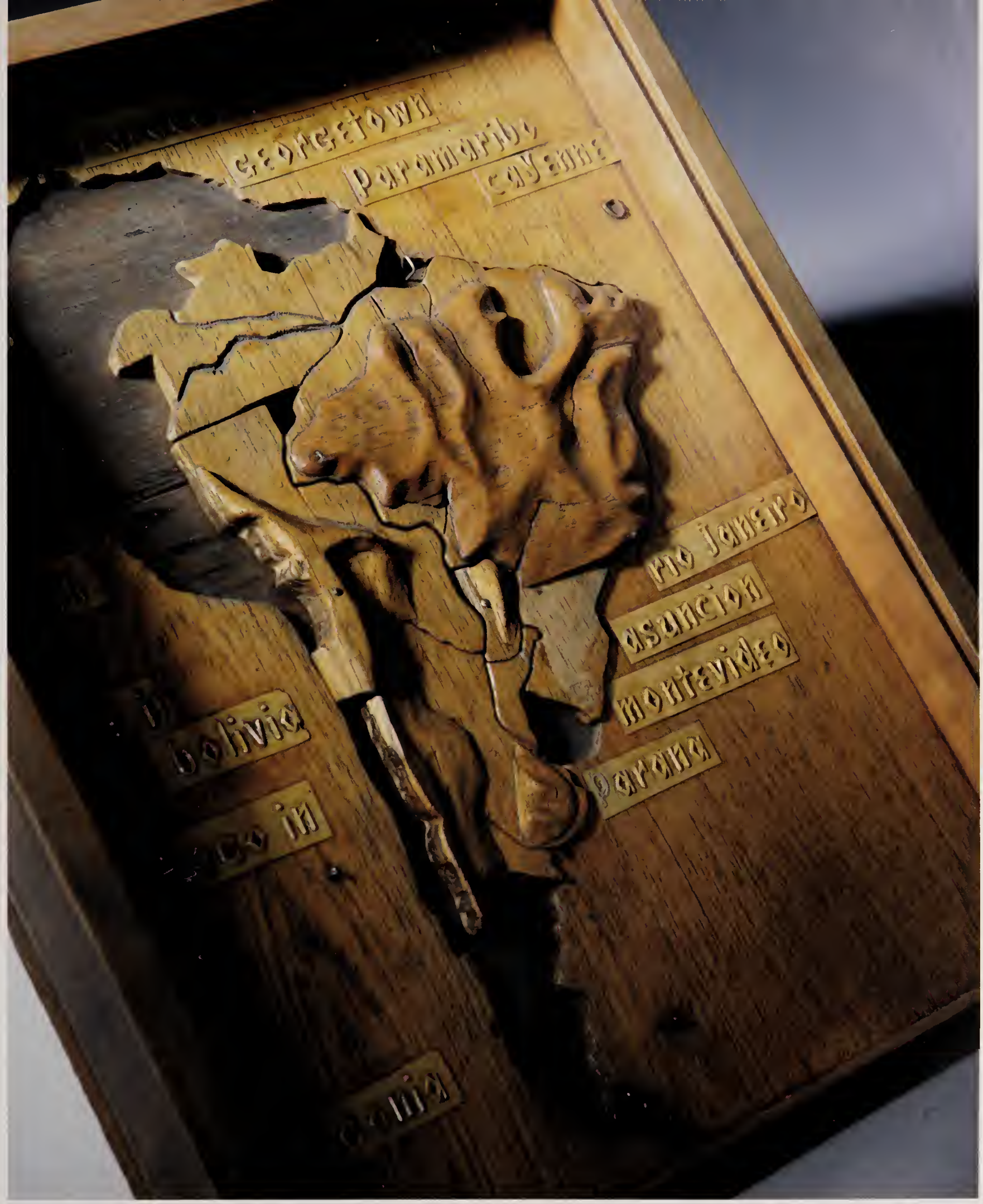
As the number of schools for the blind grew in the late 19th century, so did the need for school supplies. Teachers had more students and less time to make teaching tools. Printing House leaders recognized the need and knew that aids for blind students would be unprofitable for private companies—and therefore appropriate for APH. Yet production of educational aids—"tangible apparatus"—represented a major undertaking for the small company. APH could produce only the most basic devices, crafted by hand in small quantities.

The first APH "novel apparati" were announced in 1875: writing guides and tactile maps, and, a few years later, alphabet sheets, multiplication cards, and spelling frames.[113] The annual report for 1875 announced that APH "brought out the most complete dissected maps of physical geography yet known." For much of this time, however, the company's focus was tactile books, not apparatus.

In 1921, the situation began to change. The American Association of Workers for the Blind suggested that apparatus be distributed on quota accounts.[114] APH Superintendent Susan B. Merwin organized a committee on tangible apparatus for testing and development, but progress was hindered by lack of manufacturing space. Merwin began making plans to enlarge the Printing House to provide the space needed to begin manufacturing the most requested items—braille slates and mechanical writers.

Another potential roadblock was a ruling from the Treasury Department that prohibited APH from purchasing commercially available educational aids and offering them to schools through quota. A 1923 opinion confirmed that federal funds could only be used to purchase books and apparatus manufactured at the Printing House in Louisville.[115] Since most schools regularly exhausted their quota funds for books and existing aids, there was no apparent reason to appeal the judgment.

A major development in the manufacture of educational aids came about in 1928 when the Printing House acquired the slate-making machine shop of the Cooper Manufacturing Company of



Dissected map of South America, circa 1880

Machinist Jake Steffen came to APH in 1928 from Chicago when the Printing House bought the slate-making tools of the Cooper Manufacturing Company

APH Board President Charles Allen created an Education Research Committee in 1951 to recommend research projects to the company. The charter members of the committee were:

Robert Thompson,
Missouri School for the Blind

John Lysen,
Minnesota Braille and Sight Saving School

D.W. Overbeay,
Iowa Braille and Sight Saving School

Neal Quimby,
New Mexico School for the Blind

Edward Waterhouse,
Perkins Institution

Chicago.[116] APH hired trained machinists with critical technical expertise to work in the shop. In addition to making slates, the machine shop repaired and maintained the company's printing and stereotyping equipment. When Andrew Ellis took over as APH superintendent in 1930, he was enthusiastic about expanding the production of educational aids. "With ample space, a good machinist, and a fair supply of equipment for the shop, the Printing House is the logical agency to improve, develop, and manufacture all types of devices and appliances needed by the blind," he declared.

The Research Department

> This business of maintaining an experimental or research department is one grand nuisance. However, it is absolutely necessary if the Printing House is going to meet the needs of the schools and classes for the blind.[117]
>
> *A.C. Ellis, APH Superintendent, 1932*

Although both Merwin and Ellis recognized the need for a research program at APH, equipment and space shortages prevented any real progress in that direction during their tenures. World War II caused serious shortages of raw materials. Several APH research and development projects sat on the drawing board waiting for better days. At war's end, the addition of a large manufacturing annex finally allowed expanded production of aids and appliances at APH.[118] With the growing number of products, it became clear that research was needed not only to identify student needs and to test products, but also to study how blind students learn.

In 1952, Superintendent Finis Davis established an Educational Research Department. Davis hired Dr. Samuel Ashcroft as the department's first director in 1953. Ashcroft soon developed a network of relationships with schools and agencies throughout the country. Under his leadership, staff conducted a national survey of children with multiple disabilities and a braille study that led to the eventual development of the Patterns Reading Program.

Dr. Carson Nolan replaced Ashcroft in 1958. He led the department until promoted to head the entire company in 1976. Nolan wrote that the role of the department was "the description and prediction of the behavior of the blind child in the educational setting through use of scientific methods and techniques."[119] Research staff studied successful vision techniques and practical instructional tools with subjects ranging from the use of the abacus in math education to the most legible tactile map symbols. Many of the studies of braille reading, tactile symbols, and large type conducted in this period became seminal reference works studied in vision programs across the nation. Many new products also resulted from the research.

The focus began to shift toward new product research in the 1970s. Federal funds became available from the Act to Promote the Education of the Blind for research for the first time in 1977.

Tactile map plaque, introduced in 1959

Medical care for newborns advanced rapidly after World War II. Many children with severe disabilities, who might have died in earlier times, survived. For example, the 1963-1965 rubella epidemic left many children with a combination of deafness, cardiac issues, retardation, and vision loss.

As these children reached school age, educators were divided over how to meet their needs. Schools for the blind resisted accepting mentally disabled children. Most public schools were ill prepared to take on children with special needs. In the 1960s and 1970s, blind and visually-impaired students began to increasingly attend public schools. Schools for the blind evolved to serve children with multiple disabilities.[122] *The long-standing and close interaction of APH with the residential schools made the company the obvious choice to supply appropriate educational products for their students with multiple disabilities.*

By 1980, sales of educational aids outpaced those of the Braille, Large Print, and Talking Book Departments, making it the company's largest sales unit.

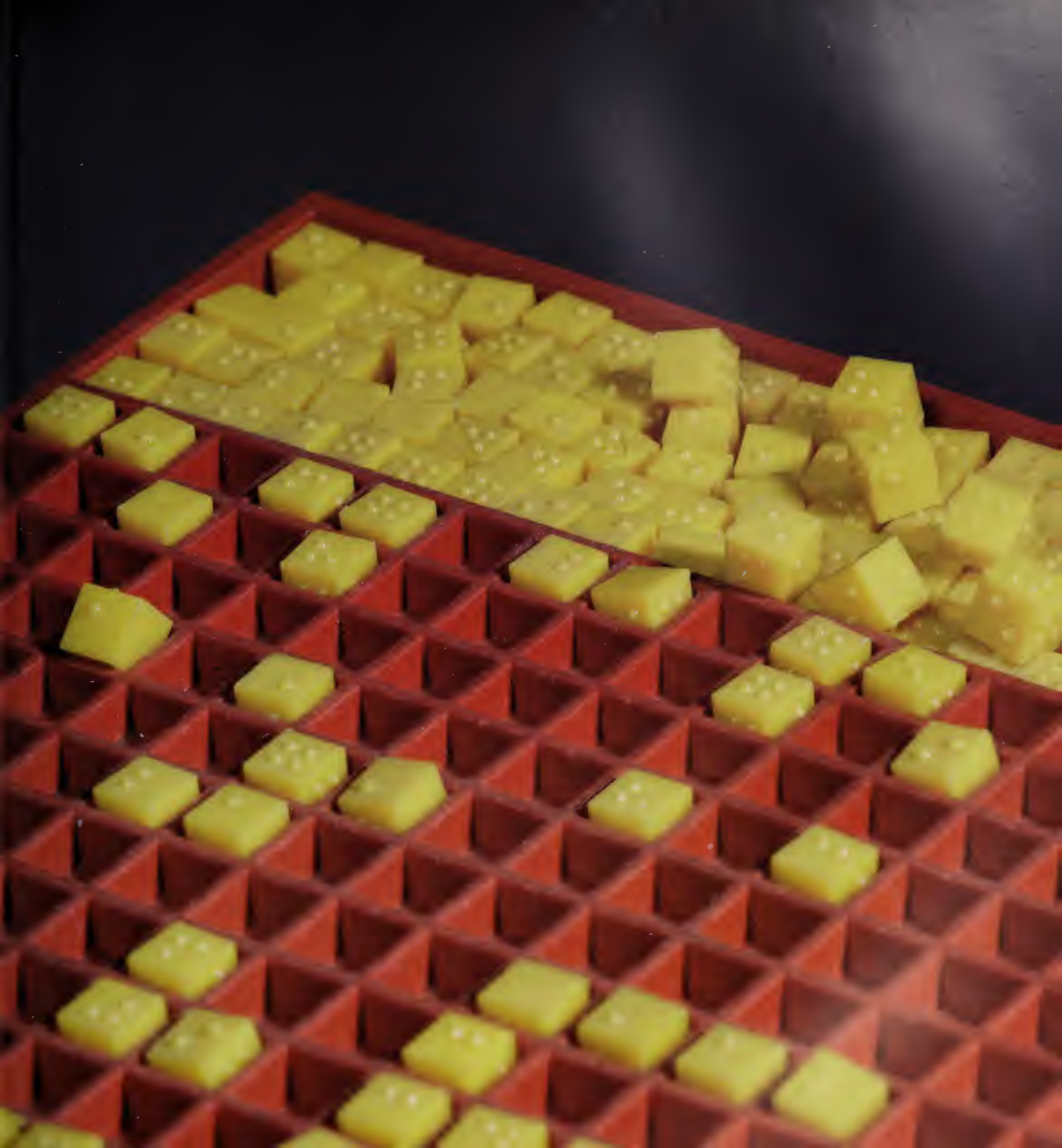
Not all events of the 1970s were positive for the Printing House, however. The Better Government Association[120] charged in 1977 that some APH educational aids were unsafe. Several were coated with lead contaminated paint that far exceeded federal limits.[121] APH joined the U.S. Consumer Product Safety Commission and the Kentucky Department of Human Resources in a general recall of the painted products. President Carson Nolan remembered, "We had to completely rebuild the painting facilities [in the plant]. Not only was the lead on the materials affecting the children, but it was also affecting our workers."

The mid-1970s marked the beginning of a new focus on educational products for children with multiple disabilities. As these children entered the educational system, it became evident that only specially-designed products and materials could meet their needs. Samuel Ashcroft had conducted a national survey of children with multiple disabilities for APH in the mid-1950s. In the mid-1970s, APH researchers surveyed teachers and met with consultants to identify and prioritize the needs of children with multiple disabilities. The resulting product was the Sensory Stimulation Kit, introduced in 1978. By 1981, products developed for children with multiple disabilities became a regular category in the APH catalog.

As new educational aids were developed, the department faced problems converting product concepts into reality. Former Director June Morris explained, "Some of the things that could be handmade as experimental materials were not easily translated into production models." APH created a model shop to prototype new products and help coordinate the efforts of product research and development with actual production. The company also established a formal research reference collection, housed in what became known as the Barr Library. Educational Research

The Calculaid and Numberaid, math tools developed by Andrew Schott in Milwaukee that APH adapted for use by visually impaired students in the mid-1960s

The Shoe-lace Aid, introduced in 1971



Ken Coy retrofitting a game in the APH model shop, circa 1980

The R&D Model at APH in 2008

The modern mission of the APH Research Department is to research and develop products that meet the needs of students who are blind and visually impaired. APH staff, focus groups, teachers, parents, and other service providers are encouraged to contribute ideas for products. A rigorous and thorough process systematically and fairly reviews products, ultimately determining which will be undertaken by the company.

After the decision is made to develop a product it is assigned to a project leader who guides the product idea through the initial development, including prototype(s); field testing; and revisions. As stipulated by the Act to Promote the Education of the Blind, a committee of ex-officio trustees, known as the Educational Products Advisory Committee, then considers the eligibility of the product for purchase with federal quota funds.

Bob Brasher, Vice President of Advisory Services and Research

became involved during the 1980s in designing and producing computer and assistive technology materials and created a Technical Research Department to handle those areas.

The 1990s saw a shift in the focus of the department to product development and related applied research. The company, with direction from the Educational Research and Development Committee of the ex-officio board, redoubled its commitment to research and development. The result was a dramatic increase in the number of new products from APH. Emphasizing both accountability and needs assessment, the research department sought advice from outside experts, considered ideas from all parts of the field, and used outside manufacturers to bring new concepts to market more quickly.

One new project area identified in the expansion of the department focused on products aimed primarily at blind and visually-impaired adults and their daily living needs. Adults had always been a secondary market, purchasing braille books, slates, braille writers, and, more recently, computers and computer software. The first catalog specifically directed to adults was introduced in 2000.

Classic Educational Aids

Geography, Wood Tactile Maps and Dissected Maps

Students explore the dissected map of North America, 1935

Tactile maps were one of the earliest Printing House specialties. The large, wood topographic maps were made by hand. Early paper maps were made with existing embossing equipment. APH offered its first cardboard maps in 1885, selling them individually and in bound atlases. Embossed paper maps, maps made with thermoformed plastics, and maps created with textured inks were still an important part of the company's catalog in 2008.

In 1875, the American Printing House for the Blind (APH) announced that it had "brought out the most complete dissected maps of physical geography yet known." Dissected maps were essentially giant puzzles. Each piece was a separate country or state. The maps were handmade by Benjamin B. Huntoon, Superintendent of the Printing House. Huntoon cut the topographic shapes from thin layers of wood using a foot-powered jig saw. He applied the wood in layers and hand-carved the details. Early reports describe Huntoon in his workshop, formally dressed in frock coat and top hat, demonstrating his methods to visitors.

Workers constructed a small electrical carving tool in 1922 to facilitate the carving of outline and contour. The maps were made by building up the relief with layers of wood, hand-carving the

The Act to Promote the Education of the Blind confined APH to the production of commercially unavailable materials. They also had to be physically manufactured in Louisville at the Printing House. APH could not compete with for-profit businesses.

In the 1920s, many schools wanted to order braille writers with quota funds, but the Printing House was not equipped to manufacture them. The company purchased parts from a braille writer manufacturer, made adaptations, and assembled the unit in Louisville. The practice satisfied the requirements of the act, and prevented APH from "reinventing the wheel" when what was needed were modifications to make products more useful to blind and visually-impaired consumers.

William Butler supervised the APH map shop in the 1930s and '40s. He created molds for the first map cast in hard rubber, the U.S. puzzle map, in 1939.

mountains and valleys, and routing out the major rivers and bodies of water using contour maps as guides. The maps of the six inhabited continents were used in classrooms and priced at $200 in the late 1920s.

In 1939, map shop foreman William Butler created a metal mold of the map of the United States from a wooden original. For the first time, a dissected map was cast in hard rubber. Like the wooden versions, the states were painted in bright colors. Other cast maps followed, including puzzle maps of the other continents and simplified continental relief maps. The thirty-inch tactile floor globe was one of the most well-known of APH's geography products. The company developed the globe in 1955 in conjunction with Panoramic Studios of Philadelphia. More than 450 were manufactured before the floor globe was discontinued in 1979. Cast from epoxy reinforced with fiberglass, the globe's segments were joined, mounted on a floor pedestal, and then hand-painted.

The latest map on the APH horizon in 2008 was the *Sendero Map*, a digital map software program designed to meet the specific needs of blind and visually-impaired people. With output in audio or braille, users could sit at a computer and "walk" the streets of a virtual city.

Writing Guides

APH was producing writing guides as early as 1875, when a report from trustees stated: "As for cheap writing guides, our printing house for the blind makes one of superior finish at eight cents, and an article inferior in finish at four cents." In 1883, writing cards were offered in several configurations including "narrow, wide, and beveled grooved."

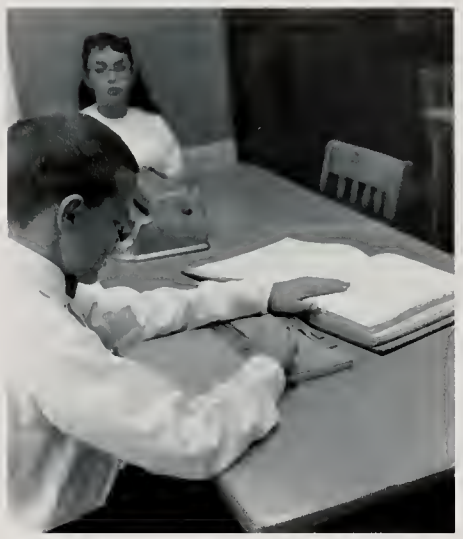
Script letter cards with engraved letters have been sold for many years. Students trace the letters with a pencil or fingertip to learn the shape of handwritten script. Raised line pencil writing paper was another classic product that continued to be useful. Once students learned the shapes of letters, they could write by guiding a pencil on the embossed lines.

Reading and Spelling Aids

Some of the earliest teaching aids produced at APH were designed to teach spelling and reading. Teachers introduced roman letters using cards embossed with raised capital and lower case letters. In 1886, APH offered "Kindergarten Material," perforated cardboard squares for sewing, lined cardboard squares for paper parquetry work, and wooden cell frames with hardwood pegs. The catalog listing coincided with the opening of the first kindergarten for blind children at the Perkins Institution in Boston. These were the earliest "reading readiness" materials made at APH.

The "Pencil And Paper" For People Who Are Blind

Louis Braille devised a tactile writing frame to accompany his tactile code. With Braille's frame, later called a slate, blind people could take notes and read their own writing for the first time. The slate,



Student taking notes with an APH desk slate

There have been many variations of the basic slate and nearly as many variations of the writing stylus. Examples are desk slates, pocket slates, postcard slates, interpoint slates and specialized slates for check writing. The Brown Slate, made at APH, was unusual because it allowed a user to check her work without removing the paper. The Janus Interline Slate was an APH original designed by staff member Fred Gissoni. This slate was hinged so that it could be turned over to read the braille without removing the paper.

with a stylus to form the dots, remained basically the same up to modern times. Because the stylus punches the dots downward into depressions, the paper must be turned over to be read. This means that braille was written from right to left on the slate. Written symbols were the mirror image of those used in reading. For braille readers, this was a readily acquired skill, although it seemed unusual at first to sighted people.

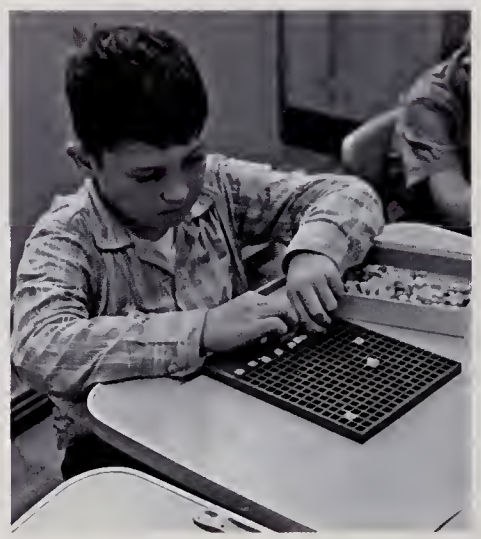
The Printing House began making slates in 1928. Over 2,400 slates were manufactured that first year. Production slowed during the war years, but by 1947 APH had the capability to make over 10,000 every year. Because the braille slate was the primary portable tool for writing braille—fitting in pocket or purse with no need for batteries—the market for slates continued into the present.

Mathematics Apparatus

> While a sighted person zips through a set of calculations with a pencil and paper, slide-rule or electric calculating machine, the blind student either strains over a set of mental calculations, busies himself with one of the peg-board arithmetic slates, or struggles with the forward writing, back-spacing and line spacing of a braille writer.
>
> *Fred Gissoni, 1965*

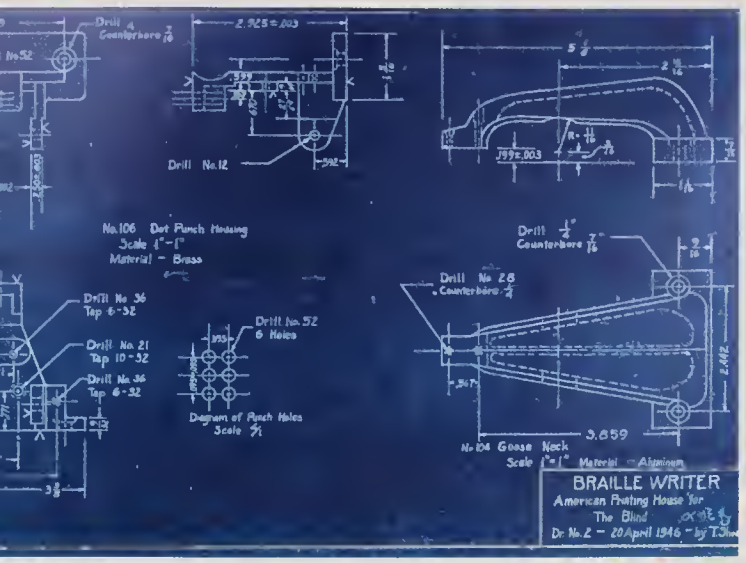
Inventing a way to make mathematical calculations tangible and accessible to blind people has been a challenge throughout history. The arithmetic slate was one of the first tools designed especially for blind students. Pegs representing numbers and mathematical operations were placed on a perforated board in the same order as a math problem might be written on paper. The adaptation of an ancient calculating device—the abacus—eventually presented a solution to the problem of previous inefficient calculation methods. The abacus enabled blind people to calculate with speed and accuracy, and with less effort than a sighted person with pencil and paper.

Taylor Arithmetic Slate



Cubarithm Arithmetic Frame

Jim Hill, foreground, assembles a Brown Slate, circa 1970



Plans for the New Hall Braille Writer

Students at the Kentucky School for the Blind test the New Hall Braille Writer, circa 1950

Braille Writers

Frank Hall, Superintendent of the Illinois Institution for Education of the Blind, invented and produced the first successful mechanical braille writer in 1892. Essentially a braille typewriter, it represented a giant step in speed and efficiency, not only in writing literary braille, but in arithmetic calculation as well.

The Printing House had introduced its own mechanical point writer in 1888, the McElroy Point Writing Machine. APH purchased the rights to the design from its inventor, James F. McElroy, in 1877. Tafel Brothers, a Louisville instrument maker, made forty-seven McElroy writers for APH. There were no records of subsequent production, but it was an early, if unsuccessful attempt to make a New York Point writer.

Inventors and producers worldwide competed to meet the ensuing demand for braille writers. All were striving for a smaller, lighter, stronger, affordable braille writer. Through the years, designs ranged from the Banks Pocket Writer, a tiny note-taking device, to the big, indestructible-looking Foundation Writer produced by the American Foundation for the Blind. In particular, schools for the blind wanted a braille writer available through the Federal Quota. In 1935, APH negotiated with a German manufacturer to buy subassemblies of the Picht braille writer. The Printing House assembled the Pichts and made them available to the schools through their quota accounts.

A few years later, in 1939, APH unveiled a new braille writer—the result of research that tested existing writers for durability, simplicity, and cost. Designed to be rugged and suitable for school use, the writer was an update of the 1892 Hall machine. Its uncomplicated design used standard commercial typewriter parts. The writer was simply named the New Hall Braille Writer.

During World War II, it was difficult to obtain parts for the New Hall. Local machine shops were involved in supplying the armed forces. Production stopped completely in 1942 when staff mechanics were lost to the war effort. By the time replacement workers were trained, it was impossible to obtain metal to manufacture the parts. Production resumed after the war and APH produced the New Hall for over thirty years. APH maintained a repair service although the design helped keep repair costs to a minimum.

Besides providing the New Hall on quota, APH also began to offer the Perkins Brailler. The Perkins Brailler was designed by David Abraham and introduced in 1951 at Howe Press of the Perkins School for the Blind. It became the most popular braille writer of the twentieth century, easily outselling all other competitors. APH purchased sub-assemblies of the Perkins machines and assembled them at the Printing House. At the same time that the Perkins and the New Hall were being produced, however, a new APH braille writer was in the works.

APH introduced the Lavender Braillewriter, designed by Raymond Lavender, in 1962. The Lavender had an inexpensive, compact design with no protruding parts. The case and cover were made of Cycolac, an impact resistant plastic. Production was rapid; almost 2300 machines were

Workers perform final assembly on the Lavender Braillewriter, circa 1968

Production head Virgil Zickel works on the Lavender design, circa 1960

sold in the first five years of production. After the writer was in use for some time, however, its plastic parts tended to warp. APH discontinued production in 1982.

Computer and Assistive Technology

When asked what she thought had been, in her experience, the most significant innovation to benefit blind people, former Director of Educational Research June Morris chose the computer. "From an educational point of view," she said, "it was the most significant for students who are visually impaired." Computer technology has vastly improved the education of children and adults with visual impairments, and the potential for new technology is great.

Raymond Kurzweil began a print-to-speech reading machine program in the 1970s at the Massachusetts Institute of Technology. Kurzweil investigated optical character recognition with synthetic speech as an assistive technology tool. On his first reading machine, a user scanned a printed page and heard it read in synthetic speech. A later device, the Opticon, used a camera to capture and display print letters in a tactile format, giving blind people independent access to ordinary print. One of the most significant developments was digital character recognition technology that read a computer screen in synthetic speech or on a refreshable braille display.

Working with an engineer at the Kentucky Department for the Blind, APH staffer Fred Gissoni developed the original prototype for PocketBraille, an electronic notetaker that converted braille input into synthetic speech. APH made and distributed this notetaker for a few years in the late 1980s. Gissoni's original notetaker led to the development of the Braille 'N Speak that was produced by Blazie Engineering and introduced in 1987. In the mid-1990s, and in 2000, APH offered updated versions of the notetaker which remained an important tool for blind users for almost twenty years.

In response to the introduction of computers into classrooms for blind children, APH assembled a group of leading educators in 1984 to study computer-related materials. The first Microcomputer Needs Meeting resulted in a new product line the next year. These first products

APH Student Speech + Talking Calculator, introduced in 1978

The company's first software title, the Talking Apple Literacy Kit, 1985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GHI
WXYZ
TUV
PQRS

Nikki Saylor explores her Companion2000 Talking Palmtop Computer, 1994

familiarized blind students with microcomputers—large type and braille books on computer literacy, manuals for specific hardware, and educational software on disks.

APH staff designed educational software products and adapted others from outside publishers. The Talking Apple Literacy Kit was the Printing House's first software title when introduced in 1985. The kit included a computer tutorial, games, and a talking word processor. It required another APH product, the Echo Commander speech synthesizer, to function. Another early application was the Talking Typer, a program for Apple computers to teach typing skills. Over the next twenty years, APH developed an array of interactive learning games and programs that engaged computer-literate students with vision loss.

Larry Skutchan, who joined the staff in 1985 as a technological specialist, was instrumental in the research and development of computer products for APH. Skutchan and his staff developed software and refined much of the hardware in APH computer products. The team developed Book Port, a book reading device, and Braille Plus, a mobile manager and web browser. Book Port allowed the user to download and read electronic text files with synthetic speech or digital recorded books with human speech. The Braille Plus coordinated multimedia collections, read and edited email and documents, played and recorded voice and music, browsed the web, tracked headlines and podcasts, managed contacts and calendar, and much more, all in a device small enough to fit in a purse or pocket. These newest reading devices brought APH full circle—from large tactile books in several volumes to small electronic devices holding many books.

Conclusion

Creativity was—and continued to be—the watchword for designing and adapting instructional aids for blind students. By 2008, the application of technology and modern materials made it possible to create aids that were more useful, durable, and attractive than ever before. In his opening address at the 1910 convention of the American Association of Instructors of the Blind, Benjamin B. Huntoon, Superintendent of the Kentucky School for the Blind and the American Printing House for the Blind, expressed sentiments that were as true in 2008 as they were at the beginning of the twentieth century:

> We who are engaged in the education of the blind know that it is no light task. We know that we need special appliances, special departments, if we would make a blind person a self-supporting citizen. All of his faculties are to be trained. Our experience of over four score years has not been in vain, nor have our results been intangible. From the beginning the problems involved have received the attention of the best minds that have been engaged in this work.

Spreading the APH Message

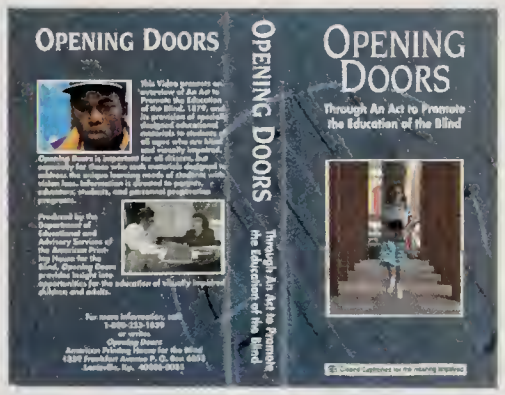
From its earliest years, APH was at the center of a nationwide network of vision professionals, many of whom served as ex-officio trustees. An 1875 publication stated that, "between the superintendents of the institutions of the blind and ourselves there exists the utmost harmony."[123] The founders were active in national blindness organizations where they promoted the Printing House to an enthusiastic audience of dedicated teachers. At the corporate level, APH was governed by a local board of trustees, prominent Louisville leaders who used their connections to advance the mission of the Printing House.

Annual meetings and annual reports mandated by the charter provided a means to publicize the company's achievements. In addition to circulating printed materials, the company exhibited at international fairs. The Printing House was most involved with Chicago's Columbian Exposition in 1893 where APH products were featured in the American Exhibit of Schools and Printing Houses for the Blind. The exhibit was installed in the fair's largest building, the Building of Manufactures and Liberal Arts. Leaders in education of blind students spoke, including APH superintendent B.B. Huntoon who presented a paper on "Appliances used in the Instruction of the Blind."[124]

Keeping the Blindness Field Informed–Advisory Services

The Act to Promote the Education of the Blind mandates that the Printing House inform the ex- officio trustees and others in the blindness field about APH activities. The Advisory Services Department was established in 1988 to provide this product and service information to educational consumers. Under the original department's "umbrella" were the Marketing Department, APH-CARL, Federal Quota Registration, and Field Services. As of 2008, Advisory Services encompassed Research, Resource Services, ATIC, Field Services, Accessible Tests, and Communications.

With the broad mission of supporting the ex officio trustees in their administration of the Federal Quota Program, Advisory Services directs a number of programs and activities. Chief among them was the administration of the Federal Quota census that compiles information on all the country's blind and visually-impaired students.[125] The Communications Department creates publications in print and on-line to keep trustees up to date. Traveling the country, Field Services staffers make teachers aware of available APH materials and teach them how to use them.[126] Advisory Services was also responsible for the annual meeting of APH Ex Officio Trustees and educators working in the blindness field. It was held every October in Louisville and featured a full program of general sessions, workshops, exhibits, and social events.



Informational video presentations were state-of-the-art in 1994, and two videos taped that year were a "first" for the Printing House. "Opening Doors," a video explaining the Federal Quota Program was the creation of APH Educational and Advisory Services. The Public Relations Department produced "Wings for the Future," an overview of the Printing House, introduced by Louisville native and television host, Diane Sawyer.

Promoting APH Products

The APH catalog of publications and products began as a small section of the annual report. Offerings increased each year. By the mid-1940s, there were three catalogs offering braille

Certificate presented to APH "for an excellent representation of specimen books for the blind" at the Columbian Exposition held in Chicago in 1893

publications and appliances, Talking Books, and music publications. Over the years, the catalog was produced in print, braille, recorded on cassette tape, and on computer disk. In the late 1990s an interactive version was posted online on the APH web site.

Through the years, there have been a number of approaches, both formal and informal, to develop markets for APH products and to support products with customer information and service. The marketing function had been addressed as a separate department, a staff committee, and as part of a larger department. The number and variety of new educational aids had increased so much by 1962 that the company hired its first field representative to demonstrate new products. Staff who dealt directly with customers were reorganized into the Customer Relations Department in 1997. Business Development and Contract Administration became a separate department in 1998. Responsibility for the APH web site, product packaging, and promotional materials was consolidated in the Communications Department, established in 2002.

Resources for Students and Teachers

In the years since it was founded, APH gradually extended its responsibility beyond the provision of educational materials for blind people. It became a national center for collecting and disseminating information on educational resources available throughout the country.

IMRC

After World War I, volunteers for the American Red Cross, the National Council of Jewish Women, and other groups learned to transcribe printed materials into braille for blinded veterans. Volunteers were also making single copies of books for students. With no central record of these efforts, the same books were being transcribed again and again.

In the early 1960s, APH began to collect master copies and location information on volunteer-transcribed materials to address the issue. Carl Lappin, who headed the project until his death in 1986, began the catalog in a manual file drawer. A 1966 federal grant established the Instructional Materials Reference Center (IMRC) at APH. The IMRC was a pioneering effort to create a national reference center for visually-impaired students and their teachers and provide a clearing house for educational materials. It became a model for other instructional materials centers throughout the country. The IMRC mission was to accumulate, develop, review, and distribute instructional materials for educators. In addition, it was to provide information about the availability and location of textbooks and other materials produced for blind and visually impaired students.

In 1968, APH published and distributed the *Central Catalog of Volunteer-Produced Textbooks*, a ready reference list for educators, transcribers, and students. First published in print, the *Central Catalog* was soon produced in braille, large print and recorded formats. APH began computerization of the catalog in the 1980s. When the computerized database was completed in 1987, it became

Carl Lappin


Then scoot b
Another corne


Where do I get it?
Octo

APH-CARL (Central Automated Resource List), named as a tribute to Carl Lappin's pioneering efforts. The database was renamed *Louis*[127] to honor Louis Braille in 1997 when it was updated and made available on the internet. Louis was a cooperative effort to share information on educational resources available in alternative media in the United States.

The APH File Repository was established in 1999 to serve as a national resource for braille producers. It provided downloadable publisher text files to speed the transcription process. It also contained embosser-ready files provided by APH and other transcribers across the country. Files from the APH File Repository were available for use in braille production only.

The Resource Services Department became the successor to the IMRC in 1999. Accessibility features on the APH web site enabled teachers or students to search *Louis* for materials without an intermediary. *Louis* required continuous updating as new titles were added, as well as copyright permissions from publishers. Field Representatives traveled throughout the country teaching blind and visually-impaired students and their teachers how to access and use the *Louis* database. By 2008, the database listed information for over 145,000 titles in braille, large print, sound recording, and computer files from over 170 agencies throughout the U.S. and Canada. It also provided downloadable computer text files from the APH File Repository and APH products.

The NIMAC

> The establishment of the NIMAC was a historic event that moves us closer to the day when visually-impaired children will have their accessible books at the same time as their sighted peers.
>
> *Nicole Gaines, APH NIMAC Manager*

The National Instructional Materials Access Center (NIMAC) was created by the Individuals with Disabilities Education Improvement Act (IDEA) of 2004, which mandated that states adopt a standard file format for accessible media production and established the center at the American Printing House. The combination of a standard file format and a central repository was intended to expedite the time frame in which instructional materials were delivered to print disabled students who needed them in the classroom.

Accessible Tests

APH transcribed its first national standardized test in 1957. In the 1970s, APH became a national leader in the editing and transcription of tests. APH provided the Stanford Achievement Test and other standardized tests in braille and large print after the Research Department studied the tests' application for children with vision loss. In 2001, the No Child Left Behind Act caused a sudden, nationwide demand for standardized tests and, in 2002, APH established a new department to

Fred Gissoni, right

make test production even more efficient. The Accessible Tests Department wrote and distributed guidelines for test publishers and developers that make tests more accessible to a wider range of students, including students with visual impairments. It also developed guidelines for editing tests into various media.

Fred's Head

Fred's Head became an online database named for and staffed by Fred Gissoni, APH's resident expert on anything concerning blindness. People with vision loss and others could search for tips, techniques, tutorials, in-depth articles, and resources for daily living.

Accessible Textbooks

In 2000, APH created a department in Advisory Services for the pre-production of textbooks in braille, large print, and sound recordings. The strategic vision of the Accessible Textbooks Initiative and Collaboration (ATIC) was to deliver custom-produced accessible textbooks in a variety of media in a timely manner. APH recruited certified braille transcribers from outside the company whose skills were suited for textbook transcription. The initiative allowed APH to increase production of new braille textbooks from four titles a year in 1999, to over 100 titles in 2008.

Through field testing and research, ATIC developed special software to create color large print textbooks in traditional textbook sizes. The process provides print in 18 point fonts, including all sidebars, captions, and footnotes. It also eliminated images behind text and increased the size of maps and other graphics. Between 2005 and 2008, the company produced over 500 new large-print textbook titles.


Braille textbooks in use in a science class, circa 1945
(New York Institute for the Education of the Blind)

Tours & Special Events

The trustees and superintendents of APH enjoyed showing off the facility and production activities to interested visitors. The first documented event that included a tour was the formal dedication of the new building on June 12, 1883. Students of the Kentucky Institution for the Education of the Blind led a procession from the school to the new Printing House, followed by the board of trustees and visitors. They gathered for the dedication ceremony in a large room on the second floor. After watching Judge Bullock formally start the steam engines in the press room, guests toured the building.

More than seventy years later, APH again celebrated a new building. In 1955, a new administration building "swallowed" the original 1883 building. The striking International Style structure, designed by Louisville architect Arthur G. Tafel, presented a new public face to Frankfort Avenue. The formal opening ceremony took place on the front lawn. The guest speaker was Herold C. Hunt, U.S. undersecretary of the Department of Health, Education and Welfare. After the

President Tuck Tinsley, left, Washington Post Publisher Katherine Graham, center, and APH Board President Joseph Woodlief, right

The building that became the public façade of APH on Frankfort Avenue in Louisville was completed in 1955

Tactile Page: Alphabet card in the Revised Braille Grade 1 1/2 system, prepared in raised letters at the American Printing House for the Blind in 2008 on a clamshell press using tin-lined plates originally created around 1920

ceremony, guests and ex-officio trustees toured the new administration building and the plant. The next day the public was invited to an open house.

APH has always shown great pride in its work and eagerly showed off the facility—especially to celebrity guests. Helen Keller spoke in Louisville in April 1933 and included a visit to the Printing House in her itinerary. Princess Alexandra of Great Britain, in her role as president of the Royal Commonwealth Society for the Blind, toured APH in 1986. Katherine Graham, publisher of *The Washington Post* and *Newsweek®* magazine was guest of honor at the 1989 celebration of the thirtieth anniversary of *Newsweek®* Talking Magazine.

The Tour Program

The factory tour proved to be an effective way to introduce people to the work and history of APH and the education and rehabilitation of blind people. Distinguished guests, student and club groups, tourists, and ex-officio trustees have been among the thousands of visitors through the years. The tour program began informally, and tour guides were employees. "On Miss [Hazel] Maffett's floor," retired employee Peggy Cunningham explained, "everybody had to learn to give tours."[128] In 1986, Beverly Hassan was hired for the newly-created position of tour guide coordinator. She said, "The people on the tours were just so appreciative; the seniors were just great. The kids were very interested in things, and so I enjoyed that very much."

Tours later became a function of the Public Affairs Department. The braille proofreading department continued to be one of the most popular stops on the tour. Carole Jones, a retired braille proofreader, spoke of her experience, "We had tours all the time...and a lot of those tours included children. The copyholder would signal the tour guide if we had a book that had a lot of four-letter words in it. We had to watch out for that. I don't think any of us really enjoyed reading those things out loud, but we just read soft and kept going."

Celebrating Talents and Heritage

Beginning in the early 1990s, four projects were created to call attention to the Printing House and the accomplishments of blind people, both past and present. They were the Wings of Freedom Award (1991), the Insights Art Exhibit (1992), the Museum of the American Printing House for the Blind (1994), and the Hall of Fame for Leaders and Legends in the Blindness Field (2002). The Wings of Freedom Award became the company's highest honor. Insights Art Exhibit celebrated the talents and perseverance of people who are legally blind, but whose creative spirits led them to new and imaginative ways to express their ideas. The museum explored the history of education of blind students as told through historic artifacts. The Hall of Fame honored individuals who shaped the education and rehabilitation of people who were blind and visually impaired.

The President Roosevelt, October 6, 1932

Dear Miss Ottman,

When I saw Mr. Ellis last summer, he told me that you and Miss Meyer had taken the liveliest interest in the rebinding of my books. I had noticed how beautifully the volumes were bound, and I was glad to know who had worked on them. Nothing could more gratify me than to have the books I love renovated, and I wish to thank you for the loving-kindness which so efficiently moved your fingers.

I did not realize how much time you had spent, and what trouble you had taken out of regard for me. I must have seemed a rather ungracious person not to express my appreciation in any way. When I left home, only half the volumes had returned, and the thought in the back of my head was, " I will write a general acknowledgment to the good people at the American Printing-house when all the books arrive." I can never say how truly I feel, and highly value the interest they have shown in my books.

I resolved to write to you at once after Mr. Ellis had spoken of you, but the summer was full of engagements and frustrations, and the right moment to fulfil my wish has never come until today.

I was grieved beyond words to hear that Miss Meyer had died. It saddens me to think she is beyond the reach of my gratitude.

I was sorry also to hear of your accident, but glad that you had recovered. I hope you have had a restful summer, and that all will go well with you this winter.

Please greet the staff of the American Printing-house cordially for me and convey my kindest remembrances to Mr. Ellis. With every good wish, I am,

Sincerely yours,

Helen Keller

Wings of Freedom

The APH Wings of Freedom Award was created in 1991 to honor those whose service to education or rehabilitation in the field of blindness has made a significant impact over a long period of time. It was awarded on an as-deserved basis.

1991	*William English*
1991	*John Siems*
1993	*Fred Sinclair*
1995	*Warren Bledsoe*
1997	*June Morris*
1999	*Andrew Papineau*
2000	*Alice Post*
2003	*Susan Spungin*
2004	*Dean and Naomi Tuttle*
2006	*Arnall Patz*

InSights Art Exhibit

InSights Art became a highlight of the company's annual meeting each October in 1992. The competition was reserved for legally-blind and visually-impaired artists of all ages. Submissions from artists across the U.S. and around the world were judged by professional artists and art educators. Award winners were featured in the juried exhibition. Art from the contest found its way onto office walls on Frankfort Avenue, APH greeting cards and calendars, and a virtual exhibition featured on the company website.

The Museum of the American Printing House for the Blind

Because the Printing House was an integral part of the educational history of blind and visually-impaired people, APH founders and leaders saved the records, reports, speeches and artifacts that formed the basis of the museum. B.B. Huntoon collected early tactile books, including a copy of the 1786 Valentin Haüy book—the first book embossed in raised letters.[129] Production workers had a sense of history as well. Often, when machinery was replaced, the outdated model was saved in storage. Even though there were sad tales of the disappearance of chandeliers and other relics, many artifacts and documents were preserved.

After extensive renovation of the historic rear wing of the company's 1883 building, the museum opened in October 1994. The Museum of the American Printing House for the Blind collected and exhibited artifacts associated with the educational history of blind people and the work of the Printing House. It was unique in the United States. The exhibit "The Way We Worked" in the lower level of the building was a tribute to the production workers and a showcase for historic production machinery.

In 1999, the Printing House acknowledged a generous gift from former General Electric engineer Eugene Callahan by renaming the museum in honor of Callahan and his late wife, Marie. The museum's main exhibit was renamed the Marie and Eugene Callahan Gallery in 2008, and the museum reverted to its original name. A major traveling exhibit, "In Touch With Knowledge," was designed to be sent to museums and other educational institutions. This exhibit premiered at the Louisville Free Public Library in 2003 and has since been exhibited throughout the country. Other smaller traveling exhibits were developed for conferences and locations with limited exhibit space.

The Hall of Fame for Leaders and Legends of the Blindness Field

The Hall of Fame for Leaders and Legends of the Blindness Field, hosted at APH, was a project of the entire field of blindness. Dedicated in 2002, the Hall of Fame honored the history of outstanding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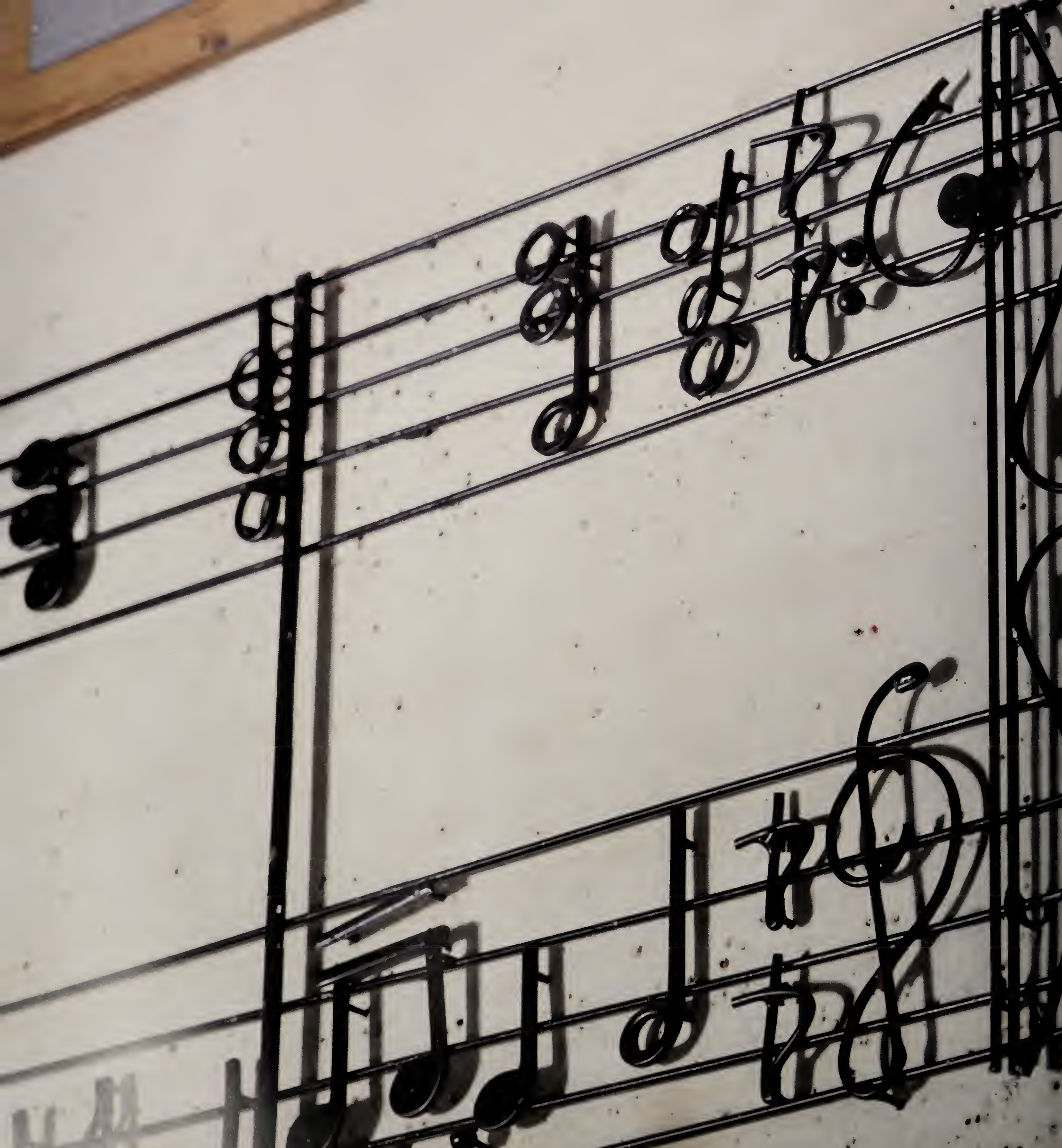
The APH Museum

individuals who served people who were blind or visually impaired. A presentation in 2000 at the International Association for Education and Rehabilitation of the Blind and Visually Impaired (AER) Conference in Denver was a catalyst. The presentation, "Gallery of Pioneers and Heroes for the Blindness Field," echoed the concerns of many that the stories of pioneering individuals were being lost.

Thirty-two charter members, including Helen Keller, Robert Irwin, and Samuel Gridley Howe, were inducted when the Hall of Fame opened in 2002. The honored "leaders and legends" were described as "a fascinating cross-section of heroes and pioneers who not only shaped our rich history, philosophy, knowledge and skills, but also give us insights into current and future challenges."[130] The Hall was guided by a voluntary advisory board with members drawn from across North America.

The Hall of Fame for Leaders and Legends



Chapter 9: APH And The Future

> The American Printing House for the Blind promotes independence of blind and visually-impaired persons by providing specialized materials, products, and services needed for education and life.
>
> *APH Mission Statement*

It would be impossible for Patten, Huntoon, and the other APH pioneers to imagine the factory and its computer-driven braille embossing, digital recording, and plastic thermoforming as they appear in 2008. They would be amazed to see continuous rolls of interpoint braille scrolling out of a box the size of a steamer trunk—without a metal plate in sight. Theirs was a mechanical world. With the right tools and skilled machinists, they could make anything required. Ours is a digital world, but in future years our digital devices will probably seem as outdated as a foot-pedal stereograph.

APH began in a room in a borrowed basement. It moved to its own modest building in 1883, and grew in fits and starts to become the largest factory of its type in the world. In the twentieth century, size and organization promised economies of scale. This much space may not be needed in the twenty-first. As hand-fed presses, tape loaders, and other machines become museum artifacts, manufacturing space will be less precious. As the labor force shrinks in manufacturing, it may grow in research, outreach, and advisory services.

The mission of the American Printing House for the Blind in 1858 was modest—to produce tactile books for school age children with vision loss. In 2008, that mission is wide-ranging, but still aimed at supplying specialized materials, products, and services for blind children and adults. The future of APH is tied directly to progress in the blindness field; and many new advances are likely in the near future. Scientists envision miniature computers with cameras that function as eyes and new medical procedures to correct or replace parts of the eye. Access to information may change, but some familiar tools are likely to remain—especially the use of braille.

Judith M. Dixon, editor of *Braille into the Next Millennium*, said in her introduction, "Change is healthy. It is heartening that change is at the core of what we think of as braille. This change, in whatever form it appears, will no doubt invigorate and revitalize the use of braille and the belief in braille as a way of life."[131] The future of braille production, its speed, accuracy, and cost, rests on two developments according to Geoffrey Bull, former president of Braille International, Inc. They were, Bull wrote, "Easy access to and conversion of digital data and the simplification of the braille code and thereby the rules governing that code."

At the inception of the Printing House, the company aimed to provide blind people with access to printed information. In the twenty-first century access to information is increasingly defined as access to digital content. In a 2004 address on technology and blind people, Marc Maurer, President of the National Federation of the Blind remarked, "We want an interface with digital equipment that will permit us to get at the functions of the machines without the use of sight."


XEROX
DOCUCOLOR iGEN3

Devices such as the Kurzweil NFB Reader, introduced in 2006, promise to provide that interface. Raymond Kurzweil's machine provided blind people with access to print, but promised future improvements. It could "learn" the appearance of a lecture hall and give directions to empty seats. It might store a library of faces, recognize an individual, and provide identification information. The possibilities of technology are intriguing.

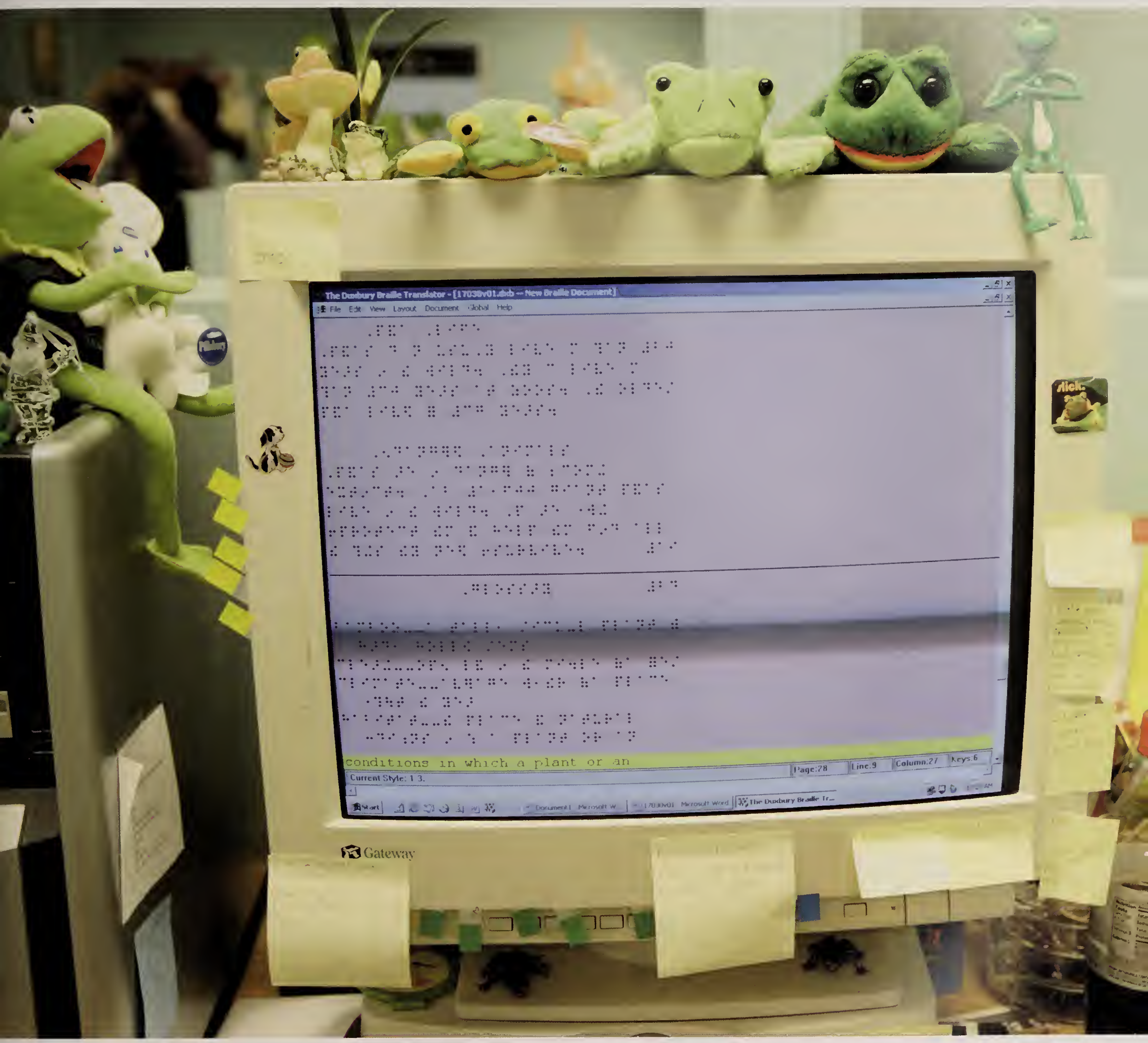
Whatever the future holds for the American Printing House for the Blind, over the last 150 years, APH has touched the minds and hearts of every blind child in the country—with the freely-given gifts of literacy and independence. This tiny institution with a big mission—chartered by a blind man, but taken up by Louisville's most prominent and respected citizens—persevered and stayed true to serving blind and visually-impaired students for 150 years. That staying power took dedication, imagination, vision, and hard work from many sources. APH leaders and workers, supported by the ex-officio trustees, the corporate board of trustees, the blindness field, and the American people through the Act to Promote the Education of the Blind, nurtured and molded the company into what it is today.

> In the end, it will not be the tools or the technology that will make the difference; it will be the attitudes and beliefs about blindness which we convey to our children throughout all stages of their development that will matter most.
>
> *Mike Tindell, International Braille and Technology Center for the Blind, 2006*


SYNC
REPRO

Appendix A: The APH Corporate Board, 1858–2008

John Milton	1858–1860
Abraham O. Brannin	1858-1866
James Guthrie	1858–1869
Bryce M. Patten	1858–1870
William Kendrick	1858–1879
Theodore S. Bell	1858–1884
William Bullock	1858–1889
John G. Barret	1866–1890
Thomas E. Bramlette	1868–1874
Haiden Trigg Curd	1870–1871
Zachary Madison Sherley	1870–1879
John P. Morton	1873–1908
Walter N. Haldeman	1875–1901
Thomas Lewis Jefferson	1880–1883
John A. Carter	1880–1894
Gavin H. Cochran	1884–1889
Albert S. Willis	1885–1896
Robert Cochran	1889–1901
John H. Heywood	1890–1901
William C. Kendrick	1895–1914
Andrew Cowan	1897–1920
Thomas U. Dudley	1902–1903
Thomas Speed	1902–1905
Henry Clifton Rhodes	1902–1930
Helm Bruce	1905–1928
John W. Barr, Jr.	1905–1941
Charles Woodcock	1907–1911
Edward L. Powell	1909–1911
James S. Pirtle	1912–1916
Benjamin B. Huntoon	1912–1919
Rueben Post Halleck	1915–1936
Alfred Pirtle	1916–1923
Lewis R. Atwood	1920–1924
R.C. Ballard Thruston	1920–1940
John W. Price	1924–1924
Harry Dumesnil	1926–1937
Stuart E. Duncan	1926–1955
Ernest Swope Clarke	1928–1948
R.A. Kent	1931–1943
Charles W. Allen	1937–1963
George W. Norton, Jr.	1937–1963
Mark F. Ethridge	1941–1963
John McFerran Barr	1941–1973
William C. Dabney	1946–1963
John McFerran, Jr.	1954–1972
Charles Bottorff	1955–1970
Watson B. Dabney	1963–1993
Charles Allen, Jr.	1963–1977
Boyce Martin	1964–1976
Lyman C. Martin, Jr.	1964–1979
Marion S. Webb, Jr.	1971–1984
John W. Barr III	1973–1996
James S. Welch	1974–1998
Joseph B. Woodlief	1978–1997
Finis E. Davis	1978–1980
George N. Gill	1981–
Virginia T. Keeney, M.D.	1981–
J.A. Paradis	1985–1995
S. Gordon Dabney	1993–
JoAnn Paradis	1993–2001
J.A. Paradis III	1994–2006
Tuck Tinsley III, Ed.D.	1996–
Charles Barr, M.D	1997–
Albert C. Horton	1997–2006
W. Barrett Nichols	1997–
W. James Linter, Jr.	1998–
Julie S. Lee, M.D.	2001–
Darrell R. Wells	2001–
Herbert W. Perkins III	2006–
Jane Hardy	2006–


The Duxbury Braille Translator - [17038v01.dbb -- New Braille Document]
File Edit View Layout Document Global Help
conditions in which a plant or an
Page:28
Line:9
Column:27
Keys:6
Current Style: 1 3.
Gateway

Notes

1. Institution for the Instruction of the Blind (Columbus, Ohio), *Fourth Annual Report of the Trustees and Superintendent of the Institution for the Instruction of the Blind, of the State of* Ohio (Columbus, 1840), 9.
2. Fanny Crosby and Samuel Trevena Jackson, *Fanny Crosby's Story of Ninety-Four Years* (New York: Fleming H. Revell, 1915). The famous hymn writer, Fanny Crosby, attended the New York Institution for the Blind from 1835-1842.
3. Mary Klages, *Woeful Afflictions: Disability and Sentimentality in Victorian America* (Philadelphia: University of Pennsylvania Press, 1999), 27.
4. Mary L. Day, *Incidents in the Life of a Blind Girl* (Baltimore: James Young, 1859), 166.
5. Editorial, *The Kentucky Tribune*, 2 February 1844, Clipping File, Kentucky Department for Libraries and Archives, Frankfort, Ky.
6. "Kentucky Institution for the Education of the Blind," *The Daily Commonwealth* (Frankfort, Ky.), 24 January 1844, Clipping File, Kentucky Department for Libraries and Archives, Frankfort, Ky.
7. The Pennsylvania Institution for the Instruction of the Blind had been renamed the Overbrook School for the Blind by 1898.
8. American Printing House for the Blind, *Circular of the Board of Trustees, to the Citizens of Kentucky* (Louisville, Ky.: Hull & Bros., 1860).
9. *Noxubee County Census 1850*, Archives and Library Division, Mississippi Department of Archives and History. In the column headed "Whether deaf and dumb, blind, insane, idiotic, pauper or convict," the census taker mistakenly wrote "insane" beside Dempsey Sherrod's name.
10. "He was a pupil at the State Institution for the Blind in Mississippi, and became troublesome in the School by his insubordination, and notorious in the State as a busy politician, demagogue, and lobbyist." Samuel G. Howe, *Warning against Dempsey B. Sherrod, and His Proposed American Printing House and University for the Blind: Showing the True History and Character of the Man and of His Pretended Establishments* (Boston: Inquirer Job Press, 1875), 17. Mississippi legislative records show that Sherrod convinced the 1864 legislature to provide free room and board in the Institution for the Blind for him and his sister in consideration of his fund raising for the institution. In 1865, the "Act for the relief of Dempsey Sherrod" was amended to order Sherrod to comply with the rules of the institution, and, after the school complained bitterly about his undeserved occupation, the legislature repealed the act for his relief in 1870.
11. There was a precedent for itinerant blind solicitors. Morrison Heady (1829-1915) of Kentucky was blind and independently collected enough money in his travels around the state to order *Pilgrim's Progress* produced in raised letters from the press at Perkins. Sherrod evidently knew of Heady because he requested his address in one of his letters to Howe. Another influence for Sherrod might have been James Champlin (b.1821) who was an active, well educated, and well traveled blind man. Champlin, founder of the Tennessee School for the Blind, opened a private school for the blind in Jackson, Mississippi, in 1847. It later became the state institution.
12. *First Annual Report of the American Printing House for the Blind* (Louisville, Ky.: Hann & Co. Printers, 1860). Published by order of the Mississippi Board. In 1861, the Mississippi legislature amended the charter to change the location of the Printing House to one of the Confederate states. In 1865 they again revised the original act, changing the name to add the clause "American University for the Blind." The Louisville institution was unaffected, however, and the trustees were likely unaware of these acts. The Mississippi Board of Trustees was finally dissolved in 1880, when the legislature transferred the unclaimed property and assets to the state institute for the blind.
13. Congressman Albert S. Willis of Louisville spoke in support of the Federal appropriation before the U.S. House of Representatives, 17 January 1879.
14. "Report of the General Agent," *First Annual Report* (1860), 5.
15. George H. Yater, *Two Hundred Years at the Falls of the Ohio: A History of Louisville and Jefferson County* (Louisville, Ky.: Heritage Corporation, 1979), 74.
16. John M. Ross, ed., The *Globe Encyclopedia of Universal Information* (Boston: Estes & Lauriat, 1877), v. 4, 141, Making of America Collection, http://quod.lib.umich.edu/cgi/t/text/pageviewer-idx?c=moa;cc=moa;g=moagrp;xc=1;q1=globe%20encyclopedia;q2=louisville;op2=and;op3=and;rgn=pages;idno=AJD6892.0004.001;didno=AJD6892.0004.001;view=image;seq=00000148 (accessed 21 March 2008).
17. "Report of the General Agent," *First Annual* Report (1860), 7.
18. Ibid.

19. American Printing House for the Blind (Louisville, Ky.), *First Annual Report of the American Printing House for the Blind to the General Assembly of Kentucky and the Governors of the American States* (Frankfort, Ky.: State Printing Office, 1866), 5. In subsequent notes, the annual reports of the trustees of the American Printing House for the Blind are cited as APH, [number of] *Annual Report*, with year published.
20. Sherrod proposed incorporation of a printing house and university for the blind to the U.S. Congress in 1868 (H.R. 1563), 1869 (H.R. 649), 1870 (H.R. 2558),1873 (S. 1374), and two other attempts in 1874 and 1875.
21. Howe, *Warning against Dempsey B. Sherrod*, 9.
22. Dempsey Sherrod, *The Destitution of the Blind as to Embossed Books, Maps, Tangible Apparatus, High School and Collegiate Opportunities, can only be met by an Endowed Printing House and College with facilities adapted to the Exigencies of such unfortunates in the hands of a Responsible Custodian, National in Character* (U.S.: Sherrod?, 1870s).
23. APH, *Fifth Annual Report* (1873), 11. Patten went on to say that "as the Superintendent of the Institution and the active member of the Board of Trustees, [he] regarded it as his duty to watch over and protect it; but it has ever been to him a labor of love; and, in taking leave of the Institution, for which he has labored so long and so earnestly, and sacrificed so much, he hopes that the future will prove that his labors and sacrifices in its behalf have not been in vain."
24. The first three annual reports of APH list Patten as a board member and secretary. In the fourth report for the year 1870 (printed in 1871) his title is Secretary and Director.
25. Advertisement for the Covington Female Seminary, *Covington Free* Press, 18 December 1838, 3.
26. Otis Patten became the first superintendent of the Arkansas School for the Blind, founded in 1859, and served in that role until 1885.
27. Bryce Patten, letter to Prof. A.S. Packard, Bentonsport, IA, 21 June 1879, Alumni Biographical Files, Office of Development Services: Records, George J. Mitchell Department of Special Collections & Archives, Bowdoin College Library, Brunswick, Maine.
28. In 1865, the legislature appropriated five dollars for every blind person in Kentucky to be used by APH.
29. David Paul Nord, *Faith in Reading: Religious Publishing and the Birth of Mass Media in America* (New York: Oxford University Press, 2004), 76-79, 93. The American Tract Society (ATS) was a nondenominational society founded in 1825 to distribute religious tracts and books. The ATS depended on an efficient network of auxiliary systems and, by the early 1830s, it had nearly a thousand of these local auxiliaries. Organized in 1825, the ATS was national in scope and, in order to take advantage of the economy of scale, embraced the latest advances in printing technology. Soon after its organization, the society began stereotyping its publications and installed steam-powered Treadwell presses, which were the first power presses in New York. Some ATS publications were included in embossed book collections.
30. APH, *Fifth Annual Report* (1873), 11. After Bryce Patten's resignation, accusations regarding his personal conduct were published in the *Cincinnati Commercial*, 26 January 1872. He was accused of mistreating students and other offenses. Patten denounced his critic in the *Louisville Daily Ledger*, 10 February 1872, and subsequent articles were published in the *Daily Louisville Commercial* on February 14 and 16. After his departure from Louisville to his wife's home in the state of Iowa, Patten never taught again.
31. "A Tribute to the Memory of B.B. Huntoon," *Report of the Kentucky School for the Blind at Louisville, Kentucky* (Frankfort: State Journal Co., 1919), 23-28.
32. Susan B. Merwin, "A Tribute of Esteem to Mr. and Mrs. B.B. Huntoon," *Outlook for the Blind* 4, no. 4 (January 1913): 94-97.
33. Mary Josephine Huntoon was educated at Hampton College in Louisville. She married (1885) a prominent medical doctor, Morgan Vance, and the couple had eight children.
34. George S. Wilson, "Benjamin Bussy Huntoon," *Outlook for the* Blind 21, no. 3 (December 1927): 5.
35. Albert S. Willis, letter to B.B. Huntoon, reprinted in "Books for the Blind," in unidentified newspaper, 13 June 1883, photocopy in Reference File, Museum of the American Printing House for the Blind, Louisville, Ky.
36. Charles Julian Clarke (1836-1908) was a prominent Louisville architect. With partner Arthur Loomis, he formed one of the leading architectural firms in Louisville. The Levy Brothers department store (1893) and Louisville Medical College (1893) are notable buildings designed by the Clarke and Loomis firm.
37. APH, *Minutes of the APH Board of Trustees*, 14 July 1882, APH Collection, Museum of the American Printing House for the Blind, Louisville, Ky.
38. "Books for the Blind, The Dedication Yesterday of the American Printing House for the Blind—The Building and Its Machinery," 12 June 1883. Clipping File, APH Collection, Museum of the American Printing House for the Blind, Louisville, Ky.

39. Excerpt from a poem by Mr. Kaltenbacher read at the dedication of memorial lights at the Kentucky School for the Blind in memory of Susan Merwin, "Memorial to Teacher at School for Blind Dedicated," *Louisville Herald*, 22 November 1924, Clipping File, Reference Department, Louisville Free Public Library, Louisville, Ky.
40. Edward M. VanCleve, *Outlook for the Blind* 23, no. 1 (June 1929): 39-40.
41. Salary was increased to $6,500 in 1926.
42. A.C. Ellis, letter to Walter Holmes, 13 May 1932, Talking Books Correspondence, Research File, APH Collection, Museum of the American Printing House for the Blind, Louisville, Ky. Holmes was the editor of the pioneering braille magazine *Matilda Ziegler*.
43. Audrea McDowell, "Light for the World's Blind," *Louisville*, 20 June 1966, 16.
44. Guthrie was President of Louisville and Nashville Railroad and Louisville and Portland Canal Co. He also served in the Kentucky Senate and House and as a U.S. Senator from 1865-68.
45. Following John Watson Barr, Jr. was John McFerran Barr, trustee 1941-1973; John W. Barr III, 1973-1996; and Charles Barr, M.D., 1997-present.
46. Tina Lou Wallace, oral history interview conducted by Andy Chappell, 1995, transcribed 2005 from a CD copy of original tape recording, Oral History Collection, Museum of the American Printing House for the Blind, Louisville, Ky. Tina Lou Wallace told of being hired to work at APH, " . . . I've often thought that it was my Phi Beta Kappa key that took me from Texas to Louisville. Because, when Mr. Ellis in Louisville heard that this blind lady from the Humphrey School for the Blind in Austin had made Phi Beta Kappa, I think that whetted his interest in me. And he offered me a job in Louisville, thank Heaven, so, I came to Louisville in the fall of 1932 and I worked happily at the Printing House from '32 to 1985."
47. In 1991, the House Appropriations Subcommittee expressed concern that blind and visually impaired workers were not given hiring priority at APH and too few positions were open to them. The next year, Congress cut the APH appropriation because of its failure to increase the number of blind employees. In response APH initiated a hiring effort to recruit more blind employees. More important was that APH staff educated members of Congress about the company's mission which is not to provide employment to people who are blind, but to provide products for their benefit. The appropriation was restored.
48. Michael Losey, "HR Comes of Age—History of Human Resource Management," *HR Magazine*.43, no. 3 (March 1998), http://findarticles.com/p/articles/mi_m3495/is_n3_v43/ai_20514399/pg_1 (accessed 21 March 2008).
49. Most industrial workers in the U.S. received paid vacations for the first time in the 1940s.
50. Historically, retirement was not an option for most workers. In 1940 nearly half the labor force was over sixty-five. Some private industries had pensions as early as the late 1800s, but most large companies had pension plans by1930, and between 1940 and 1960, workers covered by private pensions increased to nearly 30% of the labor force. Joanna Short, "Economic History of Retirement in the United States," *EH Net Encyclopedia*, edited by Robert Whaples, October 1, 2002, http://eh.net/encyclopedia/article/short.retirement.history.us (accessed 21 March 2008).
51. Employees receive a different pin for each additional five years of service.
52. The APH President's Award is presented to an employee who is a team player, a problem solver, has a positive attitude, and is honest, loyal, patient, and content.
53. Dempsey Sherrod, letter to Samuel Gridley Howe, 1 April 1856, Collection of the Perkins School for the Blind, Watertown, Mass.
54. Otis Patten was Bryce Patten's brother. He was visually impaired and educated at Perkins in Boston. Dr. Howe recommended him to his first teaching position at the Kentucky school soon after it was organized. He was hired by APH as one of its first fundraising agents. He went on to become the superintendent of the Arkansas School for the Blind.
55. Otis Patten, "To the Board of Trustees of the Ohio Association Auxiliary to the American Printing House for the Blind" (1866), 1, Otis Patten Papers, 1852-1902, Arkansas History Commission and State Archives, Little Rock, Ark.
56. B.B. Huntoon, "Printing for the Blind," *Proceedings of the Convention of the American Association of the Instructors of the Blind, Philadelphia, 15-17 August 1876* (Philadelphia: The Association, 1877), 46-47.
57. Richard Edwards, *Our President's Tour South* (Louisville: Richard Edwards, Editor and Publisher, 1878), 92-93.
58. Joseph Swager Sherley (1871-1941) served eight consecutive terms (1903-1919) as U.S. Representative for the fifth district of Kentucky. He was chairman of the House Appropriations Committee, 1918-1919.

59. The key committees are: U.S. House and Senate Appropriations Subcommittee on Labor, Health, and Human Services and the Subcommittee on Education.
60. An endowment committee formed in 1920 had determined that establishing an endowment would not be successful at that time.
61. Robert B. Irwin, *The War of the Dots: an excerpt from As I Saw It* (New York: American Foundation for the Blind, n.d.), 47. Michael Anagnos (1837-1906) was the son-in-law of Samuel Gridley Howe and his successor as Director of the Perkins School for the Blind. His comment was in reference to the debate over the merits of the various tactile reading systems.
62. For a description of the various tactile systems, see: Elizabeth M. Harris, *In Touch: Printing and Writing for the Blind in the Nineteenth Century.* (Washington, D.C: Smithsonian Institution Press, 1981).
63. Boston Line Type was the standard from its introduction in the early 1830s until it was phased out in favor of New York Point in the 1880s.
64. American Printing House for the Blind (Louisville, Ky.), *Printing for the Blind: Reply to a Report of the Committee of the American Social Science* Association *by the Trustees of the American Printing House for the Blind* (Louisville, Ky.: John P. Morton and Co., 1875), 11.
65. B.B. Huntoon, "Reading for the Blind," *New York Times*, 8 July 1886.
66. Henry Robyn, *Thorough Description of the Braille System for Reading and Writing of Music: also all the characters of the English, French and German language, ciphering and algebra. As Introduced in the Missouri Institution for the Education of the Blind* (St. Louis: August Wiebusch & Son, printers, 1867).
67. Irwin, *War of the Dots*, 15.
68. The Uniform Type Committee was formed at the 1905 convention of the American Association of Workers for the Blind (AAWB) to study the relative merits of the point systems.
69. American Printing House for the Blind, *Circular of the Board of Trustees, to the Citizens of Kentucky* (Louisville, Ky.: Hull & Bros., printers, 1860), 2.
70. *The Dairyman's Daughter*, by Leigh Richmond, and *Call to the Unconverted*, a pamphlet by Richard Baxter, were publications of the American Tract Society embossed in Boston in the mid-1830s.
71. Helen Keller, *The Story of My Life* (New York: Bantam Books, 1990), 212.
72. In 2001, the Ex Officio Trustees merged the Publications Committee with the Educational Research and Development Committee to create the Educational Products Advisory Committee (EPAC).
73. "For Blind Readers: Bibles and Lesson Leaves Printed in the Point Alphabet," *Racine Weekly Journal*, 5 September 1895.
74. The first print issue of *Reader's Digest*® was published in 1922.
75. Blake Clark, "America's House of Braille and Talking Books," reprint of *Reader's Digest*®, October 1958, 3-4.
76. "The Light at Their Fingertips," *Adventures in the People Business: the Story of World Book* (Chicago: Field Enterprises Educational Corporation, 1966), 228.
77. Currently, National Library Service for the Blind and Physically Handicapped (NLS).
78. "Unique Print Shop Where the Blind are Taught," *Racine Journal*-News, 11 March 1922, http://www.newspaperarchive.com (accessed 21 March 2008).
79. "It is believed that this marks an era in the history of printing for the blind, and that it is the first time that the systematic application of steam, under the auspices of any State, has ever been employed in this work." APH, *Fifth Annual Report* (1873), 7.
80. APH, *Sixth Annual Report* (1874), 5.
81. Elizabeth M. Harris, *Printing Presses in the Graphic Arts Collection* (Washington: The National Museum of American History, Smithsonian Institution, 1996.)
82. A rectangular steel or iron frame into which pages or columns of type are locked for printing or plate making.
83. At the time of Hall's invention, stereotype plates for embossing were made by several methods. One of the methods was to impress the dots with a mallet and punch onto copper plates. Plates were also made by hand-setting braille type and either embossing directly from the metal type or from a stereotype cast from the type.
84. John T. Sibley, "Superintendent's Report," *Twentieth Biennial Report of the Missouri School for the Blind* (St. Louis, 1879).
85. Robert B. Irwin, letter to F.A. Baker, 28 March 1928, Interpoint Research File, APH Collection, Museum of the American Printing House for the Blind, Louisville, Ky. Irwin was the director of the Bureau of Research and Education at the American Foundation for the Blind at the time.

86. *Matilda Ziegler Magazine for the Blind* led the way in interpoint by embossing two-sided pages on a rotary press in 1912. Walter G. Holmes, editor of this braille magazine, is credited with introducing interpoint into the United States. The Universal Braille Press in California was another early producer of interpoint.
87. E.E. Bramlette, letter to P.D. Merrill, 1928, Research File, APH Collection, Museum of the American Printing House for the Blind, Louisville, Ky. Merrill worked for the M.B. Skinner Co., manufacturer of the interpoint stereotype machine.
88. B.T. Kimbrough, "Dots and Doubts: Technology and Turmoil Continue to Flourish after Braille's First Century and a Half," *Information Technology and Disabilities E-Journal* 10, No.1 (August 2004), http://www.rit.edu/~easi/itd/itdv10n1/kim.htm (accessed 21 March 2008).
89. *The "Atkinson Model" No. 5 Stereotyper* (Los Angeles: Universal Braille Press, n.d.). An advertising pamphlet.
90. APH, *Sixty-eighth Annual Report* (1936), 29.
91. James Speed, "Embossing School for Blind Here is Largest in the World," *Louisville Herald-Post*, 19 November 1932, Clipping File, APH Collection, Museum of the American Printing House for the Blind, Louisville, Ky.
92. Ibid.
93. APH, *Fourth Annual Report* (1871), 7.
94. James Speed, "Woman, 82, Quits Work for Blind after Sixty-six Years," *Louisville Herald-Post*, 16 August 1937. Album of newspaper clippings, APH Collection, Museum of the American Printing House for the Blind, Louisville, Ky.
95. "Braille Type Most Popular," *Olean Evening Herald*, 26 May 1922.
96. APH, *Seventy-sixth Annual Report* (1944), 7.
97. Finis Davis, "Report of the American Printing House for the Blind," *AAIB Proceedings* (1950), in *AAIB Reports* 13: 33.
98. J. Robert Atkinson, Vice President and Manager, Braille Institute of America, letter to A.C. Ellis, May 5, 1934, photocopy in Reference File, Museum of the American Printing House for the Blind, Louisville, Ky.
99. Frances A. Koestler, *The Unseen Minority: A Social History of Blindness in America* (New York: D. McKay Co., 1976), 130.
100. In 1948, Columbia Records introduced the Columbia Masterworks Series in Long Playing (LP) record format, which rotated at 33 1/3 rpm.
101. WPA projects provided work for unemployed Americans during the Great Depression.
102. Koestler, *The Unseen Minority*, 142.
103. "Printers for Sightless Assume New Role to Aid War's Blind," *Syracuse Herald-American*, 30 December 1945, http://www.newspaperarchive.com (accessed 21 March 2008).
104. A.C. Ellis, letter to W.M. Eager, National Institute for the Blind, London, 30 March 1937, Talking Book Correspondence, Research File, APH Collection, Museum of the American Printing House for the Blind, Louisville, Ky. .
105. "Printers for Sightless," *Syracuse Herald American*, 30 December 1945, 3, http://www.newspaperarchive.com (accessed 21 March 2008).
106. Jane Eads, "Number of Braille Books is Increased," *Newport Daily News*, 2 June 1950, http://www.newspaperarchive.com (accessed 21 March 2008).
107. Alexander Scoursby was the most noted AFB narrator. Talking book narrators also included famous stage, screen, and radio actors such as Eva Le Gallienne, Otis Skinner, and Dame Sybil Thorndike. Some authors agreed to read their own works. Edna Ferber read *A Peculiar Treasure*, and Eleanor Roosevelt recorded the first chapter of *This Is My Story* in 1938, when she was still the First Lady.
108. Tina Lou Wallace (1911-1999) began working at the Printing House in 1932 as a braille proofreader. She became a proofreader in the recording department in 1943 and later headed the department. Wallace worked at APH for 52 years.
109. APH, *Seventy-first Annual Report* (1939), 14.
110. The first magazines produced on flexible disks at APH were *Harvest Years/Retirement Living* and *Farm Journal*, made for NLS.
111. Helen Keller, letter to President Herbert Hoover, February 1933, Helen Keller Archival Collection, American Foundation for the Blind, transcribed copy at http://www.afb.org (Helen Keller, Correspondence and Writings, Talking Books) (accessed 21 March 2008.)

112 B.B. Huntoon, paper read at AAIB meeting, *AAIB Proceedings* (1886), in *AAIB Reports* 3:. 56-57.

113. Used to enable blind students to write with a pencil, writing guides may be cardboard with raised lines, or boards with a hinged metal frame and parallel wires for guiding the pencil. Some have a moveable metal bar which can be lowered to the next line.

114. Allocations to the schools received through the Act to Promote the Education of the Blind and distributed through the Printing House.

115. U.S. Comptroller M.J. Durham originally ruled in 1887 that "the act authorizes the trustees to use the fund set apart by the act for the purchase of the supplies mentioned through the American Printing House for the Blind at Louisville, K., alone; that said trustees are not authorized ...to make such purchases from other sources...such a diversion would be unlawful." APH, *Nineteenth Annual Report* (1887), 8-9.

116. A braille slate is a pocket-sized or desktop two-part hinged device. The front portion contains rows of rectangular openings which guide the stylus. The back portion has rows of indentations arranged in cells allowing the stylus to emboss dots on paper. Cooper Manufacturing was the successor to Harrison & Seifried, original manufacturers of the Hall Braille Writer.

117. A.C. Ellis, letter to Robert Irwin, October 26, 1932, transcribed copy in Reference File, Museum of the American Printing House for the Blind, Louisville, Ky.

118. Space limitations forced APH to move some of its operations to a building on Brook Street in 1939, and, in 1946, to a Broadway location. In its continuous search for additional space, the board considered selling the Frankfort Avenue property.

119. Fred Otto, "Fifty Years and Going Strong for Educational Research," *APH Slate* 16, no.1 (Winter 2003): 12.

120. According to the United Press International release, the Better Government Association was a respected Chicago-based independent watchdog group working with Susan Anderson, consumer investigative reporter for Chicago television station WBBN to investigate APH product safety.

121. "Toys for Blind Found Unsafe by Watchdog Group," UPI report printed in the *Syracuse Post-Standard*, 28 October 1977, http://www.newspaperarchive.com (accessed 21 March 2008).

122. Koestler, *Unseen Minority*, 440-445.

123. APH, *Printing for the Blind: Reply to a Report*, 13.

124. "The World's Columbian Exposition," *Mentor* 3, no. 5 (May, 1893): 161.

125. The census determines the annual distribution of APH products and provides significant data to researchers and writers in the blindness field.

126. In 1962, the first APH field representative was hired to demonstrate the increasingly diverse line of educational aids.

127. *Louis Database of Accessible Materials for People who are Blind or Visually Impaired.*

128. Peggy Cunningham, interview conducted by Raymond Randles, 3 March 2005, Oral History Collection, Museum of the American Printing House for the Blind, Louisville, Ky. Hazel Maffett was supervisor of the Magazine Department. This department included direct mail fundraising as well as the coordination of magazine subscriptions.

129. B.B. Huntoon addressed the AAIB Twentieth Biennial Convention on June 28, 1910. He held up a copy of the Haüy book and said, "I have here a copy of Haüy's first book. It is printed from incised plates, which, when filled with ink, lent themselves readily to the lithographic style of printing, and enabled the binder, by pasting the successive leaves together to secure the effect of the usual two-side printing." *AAIB Reports* 6 (1910): 4.

130. "Hall of Fame: Leaders and Legends of the Blindness Field

131. Judith Dixon, "Editor's Introduction," *Braille into the Next Millennium* (Washington, D.C.: National Library Service for the Blind and Physically Handicapped; Friends of Libraries for Blind and Physically Handicapped Individuals in North America, 2000), 17.

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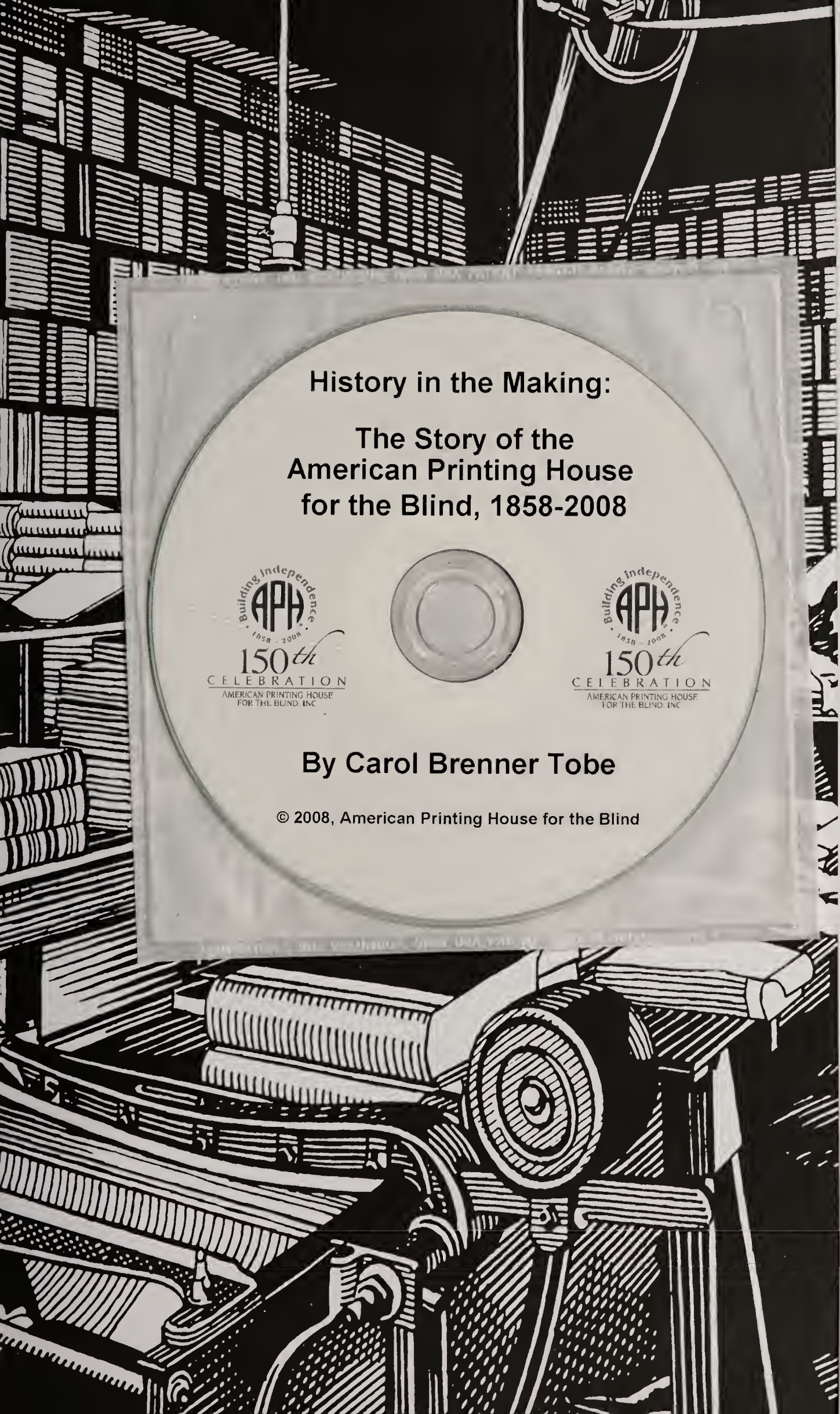

This book explores how an organization with one printing press in borrowed space in a school basement grew to occupy most of a city block and became an icon for generations of students, teachers, and adult consumers.

Carol Brenner Tobe is the former director of the Museum of the American Printing House for the Blind in Louisville, Kentucky.

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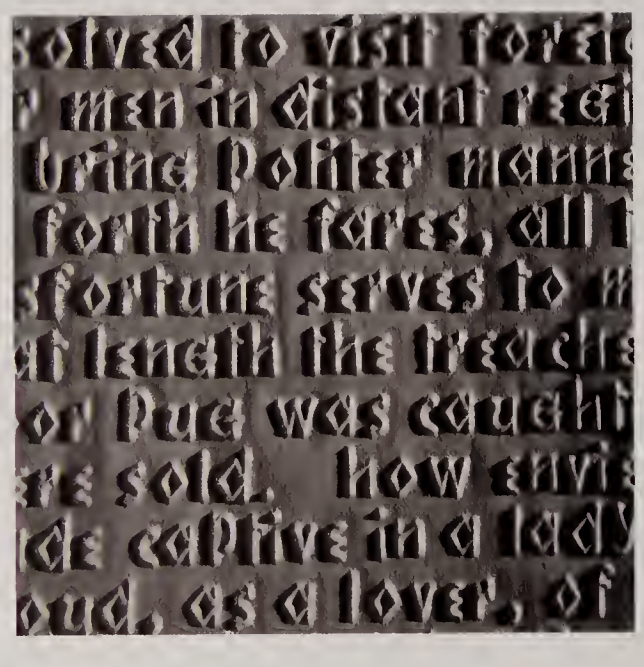

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